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ABSTRACT

The study was designed to test the following three rival hypotheses concerning the discrepancy between high Negro aspiration and low Negro achievement: (1) Negroes may have lower academic aptitude; (2) Negroes may be less motivated; and, (3) Negro aspirations may not be genuine, but simply a way of winning the approval of the researcher. The subjects were Negro and white middle- and lower-class students at a Chicago junior college. Measures of motivation and aspiration were obtained from an instrument administered during a class period. Measures of aptitude and achievement were obtained from class records. As predicted, significant racial differences were shown in both aptitude and achievement, with Negroes lower on both. However, no significant racial or social class differences were obtained on any of the motivational measures. There was no racial difference in scores on a short social desirability scale, and social desirability was, in general, not significantly related to school interest or educational aspiration. However, different correlates of achievement were obtained in the four race-SES subsamples. Whereas among middle-class whites "test anxiety" was highly correlated with achievement, among lower-class Negroes and lower-class whites, "social science interest" was important. (Author/JM)

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MOTIVATION AND ACHIEVEMENT IN NEGRO AND WHITE STUDENTS

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Chicago, Illinois

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SUMMARY

The study was designed to test rival hypotheses which have been proposed to explain the discrepancy between high Negro aspirations and low Negro achievement. The three main hypotheses were: (1) Negroes may have lower academic aptitude; (2) Negroes may be less motivated; and (3) Negro aspirations may not be genuine, but simply a way of winning the approval of the researcher.

The subjects were Negro and white middle- and lower-class students in an introductory Social Science course at a Chicago junior college. Measures of motivation and aspiration were obtained from an instrument that was administered to the subjects during a class period. Measures of aptitude (the ACT test) and achievement (grades in the course) were obtained from school records. A number of methodological improvements over previous studies in this area were made.

As predicted, significant racial differences were obtained in both aptitude and achievement, with Negroes lower on both. However, no significant racial or social class differences were obtained on any of the motivational measures: Self-Concept of Ability, need for achievement, sense of personal control, Test Anxiety, and School Interest. Thus, there was no evidence for the motivational explanations for racial differences in achievement which have been proposed by other researchers.

There was no racial difference in scores on a short social desirability scale, and social desirability was in general not significantly related to school interest or educational aspiration, a finding which would indicate that high scores on those variables were not simply due to desire to please the researcher.

However, different correlates of achievement were obtained in the four race-SES subsamples. Step-wise multiple regression was used to determine which variables predicted achievement, in addition to aptitude.

Among middle-class Negroes, educational aspiration was most important after aptitude. Among middle-class whites, Test Anxiety was more highly correlated with achievement than any of the ACT scores. Among lower-class Negroes and lower-class whites, Social Science Interest was important, in addition to aptitude.

Thus, the present study offers no support for the racial differences in motivation which have been hypothesized by previous researchers. However, such an explanation cannot be completely rejected because of the selective factors which affect attendance at a junior college. It is possible that junior colleges attract relatively unmotivated white students, and relatively motivated Negro students. However, such selective factors cannot explain the failure to find systematic racial differences in the correlates of achievement. Most notably, a previous finding that sense of personal control is more highly correlated with achievement for Negroes than for whites was not supported.

CHAPTER I

INTRODUCTION

Statement of the Problem

Studies comparing the academic achievement of Negro and white students have consistently shown higher academic achievement on the part of whites, yet studies on interest in and desire for education have shown that Negroes have aspirations which are equal to those of whites, or higher. To explain this discrepancy, a number of motivational explanations have been proposed. It has been suggested that Negro students have less need for achievement, as defined by McClelland (1961), that they have poorer self concepts, less sense of personal control over their lives, and a greater anxiety in achievement situations. These psychological problems would be a natural result of the Negro history of slavery and discrimination, and yet would hinder achievement even in the present situation of expanding Negro job opportunities. These issues have been reviewed by Katz (1967), and were also dealt with in the Summer, 1969 issue of the Journal of Social Issues.

Much of the previous research has dealt with only one variable, the variable which is the researcher's pet interest. The present study used a number of variables, in order to test their interrelationships. It also involved a number of methodological improvements over previous research, in order to assess the relationship of motivation to achievement in Negro and white students of lower-middle-class and lower-class background.

A number of studies document relatively high Negro aspirations. For example, Coleman, Campbell, Hobson et al. (1966) reported that Negroes were as interested in school as whites or more so. In their

survey of twelfth-grade students, they found that 58% of Negroes wanted to be best in their class, as compared with 33% of the "majority" students (all students except Orientals, American Indians, Negroes, Puerto Ricans, and Mexicans); 46% of Negroes wanted to finish college, as compared with 45% of the majority; 76% of Negroes said that they had never been willfully absent from school, in comparison with 66% of the majority, and 80% of Negroes, as compared with 75% of the majority, said they had read at least one book the previous summer.

Lott and Lott (1963) in a study of Negro and white high school seniors in Lexington, Kentucky, gave all students a Goal Preference Inventory that measured the strength of the student's needs for academic recognition, social recognition, and love and affection by setting up hypothetical situations in which the student was asked to choose from among the goals. They found that Negro students were significantly higher in desire for academic recognition, both in the total sample and in matched groups (students of average intelligence--IQ's of 85-104--in which the family breadwinner was working in a middle-class occupation).

In a study of 33 Negro and 33 white low income high school students, matched on age, sex, IQ, and mean social status, Smith and Abramson (1962) found that Negroes had significantly higher occupational and educational aspirations, and were more success-oriented in their life goals.

Yet in spite of Negroes' equal or greater interest in educational and occupational achievement, their average level of academic achievement invariably falls below that of whites. Why is the apparent desire to achieve not translated into actual achievement? A number of alternative hypotheses, which are not mutually exclusive, can be suggested:

Hypothesis 1. Lower Aptitude

Academic aptitude is based on inherited capacities that are developed to a greater or lesser extent, depending on the environment. It may be hypothesized that Negro students are lower than white students in academic aptitude, and their greater or equal desire to achieve does not compensate for their lower aptitude. Some support for this hypothesis

is provided by the work of Baughman and Dahlstrom (1968), who controlled intelligence and then compared the achievement of Negro and white children between the ages of seven and fourteen. They found no consistent racial differences for children of moderate IQ (80-99). This hypothesis is compatible with either an environmental or a genetic explanation for racial differences (Jensen, 1968).

Hypothesis 2. Poorer Motivation

Holding achievement goals (being best in one's class, graduating from college, obtaining a prestigious job) is not enough for achievement-oriented behavior. Achievement-oriented behavior also requires other qualities: a need to achieve, or concern with competing with a standard of excellence; self-esteem, the belief that one has the ability or capacity to achieve if one tries; a sense of personal control, the belief that the environment will be responsive to one's efforts; and relative freedom from incapacitating anxiety in achievement situations. It is possible that Negroes lack the motivational characteristics that would make achievement possible--need for achievement, self-esteem, and a sense of personal control over their lives.

Need for achievement

In an analysis of variance design in which race was separated from social class, Rosen (1959) compared the need for achievement (as measured by TAT stories) of pre-adolescent boys between the ages of eight and fourteen from a number of ethnic groups (Protestants, Italians, Greeks, Jews, Negroes, and French Canadians). The Negro mean was significantly lower than that for all other ethnic groups except the French Canadians.[1] Yet in an interview in which the mothers of the subjects were asked about their achievement values (sense of personal control, individualism, present vs. future orientation), the Negro mothers

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[1]This study had the disadvantage of using the standard Murray TAT cards, which, of course, used white persons as stimuli. The issue of whether such pictures obtain valid results from Negroes is still unsettled (Segal, 1968).

obtained intermediate scores--significantly higher than the Italian and French Canadian means, significantly lower than the Jewish mean, and not significantly different from the Protestants and Greeks.

Baughman and Dahlstrom (1968) describe similar research with Southern rural elementary school children. The stimuli were black and white line drawings that were ambiguous as to race. When a method of scoring similar to McClelland's was used, Negroes were significantly lower than whites in need for achievement.

A low level of n ach in Negroes is plausible on theoretical grounds. McClelland (1961, pp. 376-377) has postulated that slavery would lower n ach because the slave is rewarded for "dependent compliance" rather than "individual achievement motivation." It could be hypothesized that the change in the Negro's social and economic position since slavery has been too slight and too recent to be reflected in child rearing practices that encourage achievement and independence, rather than obedience and deference. Elder (1967, p. 326) has suggested that the Negro parent's interest in education has not been expressed in child rearing practices that encourage achievement, because of the parent's lack of sense of personal control and optimism.

Self-concept

In their classic study of Negro personality, Kardiner and Ovesey claim that low self-esteem and aggression are central. They state, "This central problem of Negro adaptation is oriented toward the discrimination he suffers and the consequences of this discrimination for the self-referential aspects of his social orientation. In simple words, it means that his self-esteem suffers . . . because he is constantly receiving an unpleasant image of himself from the behavior of others to him" (Kardiner & Ovesey, 1951, p. 302). Kardiner and Ovesey believe that low self-esteem can result in apathy and a hedonistic living in the present, which of course would be detrimental to achievement-oriented behavior.

Kardiner and Ovesey were referring to general self-esteem. In a study of eighth grade students in a midwestern metropolitan school

system, Morse (1963) found that Negroes were significantly lower in Self-Concept of Ability, a scale that measures self-esteem in the academic area.[1] However, the difference was slight, and Morse did not control for social class.

The relationship of Self-Concept of Ability to achievement has been thoroughly investigated by Brookover and his colleagues. One study (Brookover & Thomas, 1964) included 1057 seventh-grade Caucasian students in an urban school system. The results suggested that Self-Concept of Ability had an effect on achievement independently of IQ, as the correlation of self-concept and grade point average, based on grades in English, arithmetic, social studies and science, was .42 with IQ controlled (it was .57 without the control of IQ). Correlations were computed for boys and girls separately; those cited are for boys.

Evidence that self-concept affects grades, as well as the reverse, was provided by an experiment involving group meetings with the parents of underachievers (Brookover, LePere, Hamachek, Thomas, & Erickson, 1965). The meetings were designed to help the parents improve their children's self-concepts. Significant gains in the parents' perceptions of the child's ability, the child's self-concept and the child's grade point average occurred over the period of a year. No significant changes occurred in a placebo group (in which group meetings involved general issues of adolescent development) or in a control group. These data might suggest that the child's self-concept was partly a result of his parents' evaluation of him, and that parental evaluations and self-concept influenced achievement independently of IQ.

Personal control

Rotter (1966) has developed the concept of sense of personal control, which involves the extent to which the person sees reinforcement as contingent upon his behavior or attributes (internally controlled) rather

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[1]Self-Concept of Ability was measured by a scale containing items such as "How do you rate yourself in school ability compared with those in your class at school?" and "Do you think you have the ability to complete college?"

than controlled by external forces and/or occurring independently of his behavior. Subjects who are high in sense of personal control rely more upon past experience in a complex learning situation, and are more active in seeking information and finding out about their environment. They also achieve more academically. Crandall, Katkovsky, and Crandall (1965) found that scores on the Intellectual Achievement Responsibility Questionnaire, a measure of internal vs. external control, correlated with both academic achievement and grades. The correlations ranged from .3 to .5. Coleman et al. (1966) also found an association between sense of personal control, as measured by a questionnaire, and academic achievement. In all of these studies, of course, the direction of causation is unclear. Academic achievement probably enhances sense of personal control, as well as the reverse.

Studies relating the sense of personal control to SES and race have found that respondents low in SES and Negroes have a lower sense of personal control. Battle and Rotter (1963) used a projective test of internal vs. external control with sixth- and eighth-grade children in five metropolitan schools. They obtained a significant SES effect, with the lower class more external, and a significant SES x race interaction, with the lower class Negroes particularly external. In their survey of twelfth-grade students, Coleman et al. (1966) found that Negroes were lower in sense of personal control than whites. It is plausible that Negroes should be lower in sense of personal control, since Negroes have realistically experienced less control over their lives than whites of the same social class level. Coleman et al. also found that sense of personal control had a weak relationship to the economic level of the home and to father presence.

Coleman et al. (1966) compared the relationship of self-concept and personal control to academic achievement. They found that for "majority" (white) students, self-concept of ability was far more important than sense of personal control or interest in school; that is, it accounted for more of the variance in achievement scores. For Negroes, personal control was most important, self-concept was half as important as personal control, and interest in learning contributed nothing to

achievement. For sixth-, ninth- and twelfth-grade northern and southern Negro students, sense of personal control was more important than the strongest background variable (parents' educational desires, for ninth- and twelfth-grade students). Coleman's finding that sense of personal control was more highly associated with achievement for Negro than for white students cannot be accepted without question in the absence of controls for IQ. However, it is possible that for Negroes, a sense of personal control may be more problematical and therefore relatively more important than self-concept.

Self-disparagement and anxiety in achievement situations

Katz (1967) hypothesizes that Negroes have as high achievement goals as whites, but not the methods for realizing them. The Negro child has high standards that he cannot reach, and the result is self-criticism, self-disparagement, discouragement, and anxiety and fear of failure in academic achievement situations. As evidence for his theory, Katz cites a study in which Negro elementary school subjects worked on a pasting project and lit lights, supposedly in private, to show whether they thought their performance was "very good" or "poor." (Self-evaluations were unrelated to quality of pasting, as rated by independent judges.) Among the boys, low academic achievers hit more "poor" buttons. This self-disparagement was related to disparagement by parents; boys who were self-critical on the pasting project reported less praise and more criticism from their parents on a Reinforcement History Questionnaire. Parental criticism and a lack of parental praise were also significantly related to scores on the Test Anxiety Scale for Children and to low academic achievement.

In other words, Katz hypothesizes that the lower class Negro parent has high aspirations for his child, but does not implement those aspirations by encouraging him. The child internalizes his parents' aspirations, and becomes aware of the gap between expectations and performance. This results in self-disparagement, as seen in the pasting experiment; anxiety in achievement situations, as shown by the Test

Anxiety Scale, and lower achievement, probably due both to lack of motivation to develop achievement-related skills and to anxiety in the classroom test situation itself.

Interrelationships of variables

The variables just identified represent aspects of motivation that tend to be correlated with each other and with IQ, and to reinforce each other. Brookover and Thomas (1964) obtained a correlation of .46 between IQ and Self-Concept of Ability among male seventh-grade children. Elder (1967) cites a number of studies showing that in childhood and adolescence gain in IQ is related to a competitive, independent, coping personality, the type of personality associated with need for achievement (Heckhausen, 1967). In their study of southern rural children, Baughman and Dahlstrom (1968) found that gain in IQ between the first and fourth grades was significantly greater in Negro children who were rated persistent, self-sufficient, and not needing encouragement. Rotter (1966) and Odell (1959) report that the person who is high in need for achievement tends to be high in sense of personal control.

The adolescent with high self-esteem as described by Rosenberg (1965) appears to have a high sense of personal control and the type of self-confidence that McClelland described as typical of persons who are high in n ach. He tends to prefer a job involving competition to one involving little or no competition, probably because of the challenge and the opportunity to put his abilities to a test (pp. 227-229). In the area of personal control, he is slightly more likely to consider hard work and effort essential for success than respondents who are low in self-esteem (98% vs. 84% respectively), and slightly less likely to consider good luck essential for success (20% vs. 31% [p. 235]). Of those who consider hard work and effort essential, respondents high in self-esteem are more likely to consider themselves capable of hard work. And of those who consider good luck essential, those of high self-esteem are more likely to think that they are lucky (p. 235). Not surprisingly, respondents high in self-esteem expect to be more successful

occupationally than those who are low in self-esteem (p. 232). Yet respondents low in self-esteem want to get ahead almost as much as those who are high in self-esteem.

Implications of race for personality

For a number of these variables, notably need for achievement and personal control, research indicates that Negro students are lower than white students. The white middle- or upper class young person is confronted with a relatively open society in which educational and social status are somewhat based on merit. The influences of home and school tend to combine in a relatively effective and consistent way to motivate him to win a place in this society. The Negro student, on the other hand, may be pushed in opposite directions by different environmental influences. His parents may uphold the goal of educational and occupational achievement, while simultaneously using child rearing methods, such as disparagement and indifference to accomplishment, that are detrimental to achievement. The Negro student may come in contact with the democratic ideology of the larger culture; his family and teachers may encourage him, saying that education is the route to mobility, but he is simultaneously confronted by racial discrimination. (Malcolm X's eighth-grade English teacher was always giving his students pep talks about getting ahead and becoming a success. Malcolm was one of the school's best students, yet when he told the teacher that he wanted to be a lawyer, the teacher discouraged him because of his race and suggested that he try carpentry instead (X, 1964, p. 36). Given such a background, it is not surprising that the Negro student should lack some of the motivational characteristics that are necessary to achievement. It might also be predicted that he would have a weaker sense of identity, as the term is used by Erikson (1959); that is that, rather than being a coherent synthesis of earlier identifications, his personality would contain inconsistent elements in conflict with one another.

General evaluation of motivational explanations

Of course, the explanations considered above are not mutually exclusive. All may be partially true, at least for some subjects. Different explanations may apply to different social class groups, or in different parts of the country.

All explanations have some support, yet each study cited has some weaknesses. For example, the Coleman study did not attempt to control for IQ. The role of social class was ignored in many studies. Some authorities believe that racial differences largely disappear when social class is controlled; others (e.g., Poussaint, 1967) believe that the humiliation and oppression suffered by the Negro has had effects additional to those of social class.

Almost all studies have focused on a few related variables, rather than comparing a wide range of variables to determine which are most strongly related to achievement. Thus, Rosen worked on need for achievement, Brookover and his colleagues on Self-Concept of Ability, Katz on self-disparagement and Test Anxiety, others with sense of personal control, etc. Few have attempted to compare these variables with each other in their relationships to academic achievement.

Hypothesis 3. Approval-seeking Expression of Achievement Values

A third hypothesis, which would explain lower Negro achievement in conjunction with expressed high desire to achieve, is that achievement interests and goals have not been genuinely accepted by Negroes, but are rather expressed for the benefit of the tester or researcher as desired responses. The research that provides evidence for the high interest in education among Negro students usually involves questionnaires or interviews in which the intent of the question is fairly obvious and on which responses could easily be distorted by the respondent.

A number of studies indicate that Negro students are not as interested in education as the studies cited above would indicate. Katz (1967) stated that teachers find Negro students more apathetic and less

interested in their schoolwork than whites. Baughman and Dahlstrom (1968), in their study of southern rural children, found that teachers rated Negro children as less concerned with excellence than whites. (However, they found more significant sex differences than race differences; girls were rated more concerned with excellence, more absorbed by tasks, and trying harder at lessons.) It is an established Negro custom to tell white people what they want to hear and thus avoid conflict (Pettigrew, 1964, pp. 49-51). Although the researchers in most of the work cited were Negro, the same attitude could readily generalize to an authority figure of either race.

Relationships of Three Main Hypotheses

The three main hypotheses are not mutually exclusive. It would be possible for any one, or any combination of the three, to be supported. Negro students could lack both ability and motivation (Hypotheses 1 and 2). They could lack ability, yet express an interest in education and high aspirations as a way of pleasing authority figures (Hypotheses 1 and 3). They could lack the motivational characteristics helpful for academic achievement, such as a need to achieve and sense of personal control, yet express an interest in school and high aspirations as a way of pleasing authority figures (Hypotheses 2 and 3).

Methodological Improvements in the Present Study

The present study attempts to overcome the defects of previous studies and to test the hypotheses by:

1. Careful control of social class.
2. Use of a measure of academic aptitude that permits the assessment of the effect of motivation independently of aptitude.
3. Use of a variety of instruments that permit the effects of different types of motivation to be compared.
4. Use of a variety of measures of desire to achieve for which the content varies in its obviousness.

5. Use of a Social Desirability scale as a measure of approval-seeking.
6. Use of both Negro and white testers.

CHAPTER II

METHOD

Subjects

The subjects were students at Loop College who were enrolled in Social Science 101. Loop College is a Chicago junior college that is located in the central business district and draws students from all over the city. Its enrollment is approximately 45% white and 45% Negro. Social Science 101 is an interdisciplinary course covering psychology, sociology, and anthropology. It is required for the Associate of Arts degree and thus includes students typical of the entire college enrollment.

From the original sample of 414, subjects in the following categories were eliminated:

1. Female students, because achievement is more problematical for Negro men than for Negro women. Also, because achievement has different meanings for men and women, they should be studied separately; it was therefore decided to simplify the study by limiting it to men.

2. Students who were neither white nor American Negro (mainly Mexicans, Puerto Ricans, and Orientals).

3. Students who were age 26 or older, because older students returning to school have special problems.

4. One severely physically handicapped student.

5. Two students with very incomplete data, who failed to complete the first section, the Rotter I-E Scale.

Junior colleges tend to attract two types of students: (a) Those who cannot afford a four-year college, and (b) Those who could afford a four-year college, but who cannot attend one because of academic

or psychological problems. It was considered desirable to eliminate subjects in the latter category, in order to obtain subjects who were typical of their social class level and to make the white sample more comparable to the Negro sample. To this end, the following subjects were dropped from the basic sample of 195 white and Negro males, age 25 and under:

6. Students who had either been placed on academic probation at a four-year college, or dropped from a four-year college for poor scholarship (eleven subjects, ten white and one Negro).

7. Students whose family socioeconomic background was too high for them to be considered either lower or lower middle class. This group included all students whose fathers were college graduates and had an occupational prestige score of 47 or better on the Duncan Scale (Duncan, 1961), those whose fathers had some college and an occupational prestige score of 61 or higher, and all subjects whose fathers' occupational prestige was 68 or higher. The subjects who were eliminated included those whose fathers were in managerial and supervisory positions, engineering and other scientific fields, etc. (twenty-three subjects, eighteen whites and five Negroes).

After these subjects were eliminated, the sample consisted of 159 subjects, 93 whites and 66 Negroes.

Procedure for Data Collection

Information obtained from the subjects

The subjects filled out questionnaires containing the motivational instruments and background questions during a regular class period. For nine of the classes, a Negro female tester was used; for nine, a white female tester. Both were in their early thirties. For two classes, a second Negro female tester, a college senior in her early 20's, was used. Where one teacher taught several sections of Social Science 101, his sections were divided as evenly as possible between Negro and white testers.

All testers gave the same introduction to the questionnaire (see Appendix A). The following instruments were included (see Appendix B):

School interest

Four items used by Coleman et al. (1966) to measure interest in school were included, in order to obtain comparable results. However, these items were only pre-tested for comprehensibility, and they may well not be the best items available.

In an attempt to develop an objective scale of academic motivation, Farquhar (1963) has related a large number of items to academic achievement in eleventh-grade students. Appropriate items from this study were included.

Level of aspiration

Questions were included that assessed the educational and occupational level which the S expected to reach. Educational aspiration was measured on a 4-point scale (not working for a degree, plan to get AA degree, plan to get BA or other four-year degree, plan to do graduate work). Occupational aspiration was measured by asking the subject what job he planned to have five years after completing his education, and translating his answer into an occupational prestige score on the Duncan Scale.

Need for achievement

Need for achievement was measured with the French Test of Insight (French, 1958). The Test of Insight consists of ten statements describing a person, e.g., "John said, 'Look what I've done,'" "George will usually volunteer for a difficult task." (Names used by Negro and white students at Loop College were substituted for the generally white Anglo-Saxon Protestant names of the French Test.) The subject is asked to describe what the person is like and why he behaves as he does, and the descriptions are scored for achievement motivation. The advantage of this test over the McClelland TAT test for need for achievement is, of course, that the stimuli are not identified by race and therefore subjects of both races can identify with them.

The Test of Insight has been validated in a number of studies (French, 1955, 1958; French & Thomas, 1958). Littig (1968) has employed the Test of Insight with Negro subjects, and holds that because of its independence of race it is the best test for such research, even though it produces less achievement imagery than the standard TAT test (Littig, 1969).

Self-concept of academic ability

The measure of Self-Concept of Ability developed by Brookover, Paterson, and Thomas (1962) was used.

Sense of personal control

Sense of personal control was measured by the Rotter (1966) I-E scale. The Rotter scale measures the extent to which the person perceives reinforcement as contingent on his own behavior or attributes, as opposed to being controlled by forces outside of him.

A study by Gore and Rotter (1963) provides some evidence of the validity of the Rotter scale for Negroes. Southern Negro college students who were more interested in and committed to social action were found to be more internal on the Rotter scale. (Commitment to social action was measured in a highly realistic fashion--a student confederate entered the classroom and asked the students to sign up if they were willing to participate in the activities of a Students for Freedom Movement.)

Strickland (1965) compared known Negro civil rights activists with a control group and found the former to be more internal.

Test Anxiety

The Alpert-Haber (1960) test of debilitating anxiety was included. This test was originally developed in order to measure facilitating anxiety as well as debilitating anxiety. The facilitating anxiety scale was not used, as it is not relevant to the hypotheses under consideration. The debilitating anxiety scale has the advantage of being shorter than

the better known Mandler-Sarason Test Anxiety Scale (10 items rather than 21). It correlates just as highly as the Mandler-Sarason scale with such criteria as course and exam grades, as shown by studies where both have been used (Alpert & Haber, 1960; Carrier & Jewell, 1966). The Alpert-Haber scale has been found to correlate .64 ($p < .01$) with the Mandler-Sarason scale (Alpert & Haber, 1960). Its items are very similar to those in the Test Anxiety Scale, but it appears to focus more clearly on feelings during actual school examinations ("I find that my mind goes blank at the beginning of an exam. . . .").

Social desirability

Because conceptions of the socially desirable may vary by race, the social desirability scale developed by Crowne and Marlowe (1964) was revalidated. Students in Introductory Social Science and Introductory Sociology classes at Loop College were asked to answer the 33 items of the Marlowe-Crowne scale in a socially desirable manner. Ten items for which 60% or more of the white males and 60% or more of the Negro males under 26 agreed on the socially desirable answer were chosen for the version of the scale used here. (A subsequent reliability check was performed with the data obtained in the present study; see the section on Analysis of Scales in the following chapter.)

Background information

Background information on race, father's and mother's education and occupation, age and sex were obtained.

Information obtained from the Loop College Registrar

American College Testing Program (ACT) scores

American College Testing Program (ACT) scores were available for most subjects. The test provides scores for subtests in English, Mathematics, Social Studies, and Natural Science. The ACT tests ability to

do college work; although knowledge of material learned in high school is helpful, the ACT is not a narrow test of high school achievement. It also measures abilities such as reasoning, evaluation, interpretation, etc. For example, the Social Studies test "measures the evaluative reasoning and problem-solving skills required in the social studies" (American College Testing Program, 1965, p. 4). The items involve reading comprehension, understanding of basic concepts, and knowledge of sources of information.

In one study based on data from students at 21 colleges and universities, the ACT was as good a predictor of freshman grades as the College Entrance Examination Board's Scholastic Aptitude Test. Both the ACT and the SAT were better than the Educational Testing Service's School and College Ability Test (SCAT). When the four ACT scores were used to predict freshman grade point average in 15 colleges, the multiple R's ranged from .30 to .69. When the ACT scores were used to predict freshman social science or humanities grades in five colleges, the multiple R's ranged from .35 to .64 (Munday, 1965).

Most of the subjects had taken the ACT during their senior year in high school. ACT scores were not required for older students, those who had taken a minimum number of hours at another college, and part-time students. Therefore, the sample of 129 subjects with ACT scores available was somewhat more homogeneous than the total sample.

Grades

Social Science 101 grades were obtained for all students who completed the course. In order to obtain another measure of achievement, grades for English Composition, another course required for the Associate of Arts degree, were obtained for those students who had completed that course.

Other colleges attended

The registrar's files also provided information as to other schools attended, both junior colleges and four-year colleges, and whether the subject had been placed on academic probation or dropped

from another college for poor scholarship. This information was used to purify the sample (see above).

Computation of SES

The questionnaire contained a number of questions that were used to obtain a measure of SES: Father's occupation (step-father's, if the student had lived with him for five years or more), father's education, mother's occupation, and mother's education. Possible questions about family income or about marital status of parents were avoided as likely to antagonize the subjects.

Father's occupation and education were used as the main indicators of SES, on the assumption that if the parents were divorced or separated the father's occupation and income would have had an effect on the subject during his earlier years, and would be correlated with his mother's education and occupation. Where the subject answered one question but not the other, he was assigned the median score for other subjects of the same race, on the other variable. Where the subject answered neither question, the subject was given an SES score based on his mother's education and occupation.

Education was assigned a score ranging from one to five (see Tables 1 and 2). Occupation was assigned an occupational prestige value from the Duncan scale (1961), and these scale values were transformed into scores on a scale ranging from zero to four. SES was obtained by adding the two scores to get a 9-point scale. These scores were dichotomized to define lower-class subjects (scores of one to four) and middle-class subjects (scores of five to nine). According to this procedure, only three subjects could not be assigned an SES score. (See Tables 1 and 2.)

The lower-class subjects consisted mainly of the sons of unskilled or semi-skilled workers, often factory workers, usually with less than a high school education; the middle-class sample, in reality a lower-middle-class sample, consisted mainly of the sons of skilled workers,

TABLE 1

FATHER'S EDUCATION AND OCCUPATION FOR THE NEGRO SAMPLE*

Father's Education Score	Level	Father's Occupational Prestige on the Duncan-Riess Scale							
		Score (0)	(1)	(2)	(3)	(4)			
		Scale Value 1-12	13-20	21-30	31-46	47-67	No Answer	Total	Per Cent of Grand Total
(1)	Eighth grade or less	3	8		2	1	4	18	27
(2)	Some high school	1	8	3	2	1	2	17	26
(3)	High school graduate	1	4	4	2	2	2	15	23
(4)	Some college		2	2	4			8	12
(5)	College graduate		1					1	1
No answer		1		1		1	4	7	11
Total		6	23	10	10	5	12	66	100
Per cent of grand total		9	35	15	15	8	18	100	

*Tabled values are frequencies. Lower-class students are above and to the left of the dashed line; middle-class students are below and to the right.

TABLE 2

FATHER'S EDUCATION AND OCCUPATION FOR THE WHITE SAMPLE*

Father's Education Score	Level	Father's Occupational Prestige on the Duncan-Riess Scale: Score (0)	(1)	(2)	(3)	(4)	No Answer	Total	Per Cent of Grand Total
	Scale Value	1-12	13-20	21-30	31-46	47-67			
(1)	Eighth grade or less	4	7	6	5	2		24	26
(2)	Some high school	3	7	5	5	3	2	25	27
(3)	High school graduate	2	6	2	14	8		32	34
(4)	Some college		1	2	3	1		7	8
(5)	College graduate								
No answer		1	1				3	5	5
Total		10	22	15	27	14	7	93	100
Per cent of grand total		11	24	16	29	15	7	102	

*Tabled values are frequencies. Lower-class students are above and to the left of the dashed line; middle-class students are below and to the right.

clerical workers, and small businessmen with a high school education or better.

Scoring Procedures and Measurement Characteristics of Scales

For all scales for which this procedure was appropriate, an item-by-subject analysis of variance was performed to determine the percentage of the variance due to items, subjects, and error. In addition, homogeneity coefficients (Fiske, 1971) were computed: $\underline{r}_{tt}$, the correlation of the test with a hypothetical test prepared in the same way but with different items (Cronbach's alpha), $\underline{r}_{ii}$, the average intercorrelation among items; $\underline{r}_{gg}$, the correlation between the endorsement value of the items for this group of subjects and for a hypothetical similar group, and $\underline{r}_{pp}$, the average correlation between pairs of persons (an indication of the extent to which the items have the same meaning for all subjects). The results of these analyses are presented in Table 3; unless otherwise noted, the scales were considered adequate.

These analyses were performed before eight of the high SES subjects and two subjects with incomplete data had been removed from the sample. Therefore, the tabled values may be slightly inflated for the sample ultimately employed to test hypotheses.

Scales for the study were scored as follows:

School interest

A School Interest-Total score was obtained by summing the S's responses over all of the school interest items.[1]

In addition, the School Interest items were intercorrelated and factor analyzed by the principal components method, with 1's in the diagonal. The factors were rotated by Kaiser's varimax method. Three factors emerged: a School Ambition, Success Goals, which related to general life ambitions, and No Negative Attitudes toward School, which

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[1]Items 12-15 of the Attitudes Toward School section of the test booklet, and items 2, 4, 5, 7, 10, 12, 14 and 17 of the following section, headed "General Directions."

TABLE 3

ANALYSIS OF SCALES

Scale	No. of Items	N	Homogeneity Analysis--Proportion of Variance Accounted for by:			Homogeneity Coefficients			
			Items	Ss	Error	r_{tt}	r_{ii}	r_{gg}	r_{pp}
School Interest-T	12	157	42%	11%	48%	.59	.11	.99	.46
School Ambition	3	157	18	46	35	.62	.35	.99	.33
Success Goals	2	157	5	59	37	.37	.23	.95	.10
No Negative Attitudes	2	157	0	67	33	.50	.33	...	-.00
Social Science Interest	3	157	16	57	26	.77	.52	.99	.38
Self-Concept of Ability	8	164	21	26	53	.71	.24	.98	.28
I-E Scale	23	167	11	11	77	.70	.09	.96	.12
Control Ideology	9	167	13	17	70	.50	.10	.97	.15
Personal Control	4	167	6	35	59	.44	.17	.94	.08
Test Anxiety	10	157	9	35	56	.82	.32	.96	.13
Social Desirability	10	161	12	13	75	.38	.06	.96	.13

related to difficulties in concentrating and remaining interested. Factor scores were computed for each factor by summing the scores for the items that were more highly loaded on it than on any other factor. The School Ambition scale, consisting of three items,[1] was an adequate measuring instrument; the other two scales, consisting of two items each, were inadequate (see Table 3). Results obtained from the latter two scales were generally nonsignificant and will not be reported.

Need for achievement

The French Test of Insight protocols were scored by the author according to the manual by McClelland, Atkinson, Clark, and Lowell (1958). In a check of reliability with an experienced scorer, the Spearman rho between the two scorers was .81 (N = 40).

Self-Concept of Ability

The Self-Concept of Ability scale[2] was scored in the standard manner used by Brookover, by summing the scores over the eight items.

Personal Control

The total I-E score consisted of the total number of items[3] which the subject answered in the internal direction.

In a factor analysis of the Rotter scale (Gurin, Gurin, Lao, & Beattie, 1969), with a Negro sample, two factors were obtained; these factors were found to have different correlates (Lao, 1970). The same factors were not obtained in a factor analysis of the present data (see Appendix C); however, scores based on these factors were computed because of their research interest. The Control Ideology scale,[4] consisting of

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[1]Items 14 and 15 of the Attitudes Toward School section, and item 12 of the following section.

[2]Items 1-8 in the "Attitudes toward School" section.

[3]The first 29 items of the test booklet, excluding six dummy items (1, 8, 14, 19, 24, and 27).

[4]Items 6, 7, 10, 11, 16, 18, 20, 23, and 26.

items phrased largely in the third person, assessed the subject's agreement to the idea that people in general have control over their lives; the Personal Control Scale,[1] consisting largely of items phrased in the first person, assessed the extent to which the subject felt that he, personally, had control over his own life. Both scores consisted of the number of items with high loadings on the Gurin et al. factor which the subject answered in the internal direction.

Test Anxiety

The Test Anxiety scale[2] was scored in the standard manner.

Social Desirability

As a check on the reliability of the Social Desirability scale,[3] point biserial correlations were computed between each item and the total score (corrected for the fact that that item was included in the total score). The correlations were computed separately for each race-by-SES subsample (lower-class Negroes, middle-class Negroes, lower-class whites, and middle-class whites). Of the 40 correlations (10 items for four subsamples), only six were negative; K-R 20 indices ranged from .34 to .53 for the four subsamples. The reliability of this scale was low (r_{tt} was only .38 for the total sample), but not so low as to justify ignoring it.

Social Science grades

A 5-point scale was used for the Social Science 101 grades (F = 1, A = 5). In order to correct for teacher differences in harshness or leniency of grading, the Social Science grades were transformed into T-scores according to the formula: T = 10 (Z + 5), with the Z-scores for

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[1]Items 9, 13, 15, and 26.

[2]Items 1, 3, 6, 8, 9, 11, 13, 15, 16, and 18 of the last section of the test booklet before the Background Information section (headed "General Directions").

[3]The "Personal Reaction Inventory" in the test booklet.

each subject computed with the mean and standard deviation for his teacher. (The means and standard deviations were computed from the data from the original sample, including women, students age 26 and older, Latin Americans, Orientals, high SES students, etc.) T-scores have a mean of 50 and a standard deviation of 10, and avoid the use of negative numbers.

Method of Analysis

Analysis of variance

Race x SES x race of experimenter analyses of variance were performed on the Social Science grade T-scores, the ACT scores, and all of the scores obtained from the questionnaires. (See Appendix D.) These analyses all involved slightly different N's, since some of the students had incomplete data. The study contained one honors class; the ten subjects in this class were omitted from the analyses of variance. Since they had all had the same experimenter and since they were atypical in ACT scores and perhaps on other variables as well, they would have created spurious experimenter effects. An analysis of variance computer program at the University of Chicago Computation Center, "Univariate and Multivariate Analysis of Variance and Covariance" (Mesa 97) was used.

The program performs an exact least-squares analysis for designs involving unequal numbers of cases per cell. In this analysis the most accurate estimate is obtained for the effect that is computed last. Therefore, the tester effect was computed first, then the SES effect, and last the race effect. For the double interactions, the sequence was: tester x SES, tester x race, SES x race. (However, analyses performed with different sequences showed that in practice the sequence in which the effects were obtained made almost no difference.)

Analysis of covariance

A race x SES analysis of covariance was performed on the Social Science T scores, with the ACT scores as covariates. Tester was not used as a factor, because tester could not have affected the ACT scores

(which had been obtained before the testing session) and had no significant effect on the Social Science grades (see Results Chapter, Hypothesis 1). The 10 honors students were included in this analysis.

Correlation

All major variables were intercorrelated within each race-SES subsample (lower-class Negroes, middle-class Negroes, lower-class whites, and middle-class whites). Due to incomplete data, the correlations were based on different N's.

Multiple correlation

For each race-SES subsample, stepwise multiple regression was used to determine which variables best predicted Social Science grades. For each subsample, race of tester, ACT scores, and motivational variables highly correlated with Social Science grade were included in the analysis. Where several variables were correlated with Social Science grade and also with each other, only one was chosen, in order to avoid problems of multicollinearity (Gordon, 1968). The variable was chosen on the basis of which was most highly correlated with SS-T, most independent of ACT, and for which there was the least missing data.

CHAPTER III

RESULTS

The analysis as originally planned was intended to explain racial differences in achievement, in the face of research that indicates an absence of racial differences in interest in education and level of aspiration.

The expected difference in achievement was obtained in the present study; in the race x SES x tester analysis of variance, the racial difference in Social Science 101 grades (T-scores) was significant at the .05 level (see Tables 4 and 24). The racial difference in

TABLE 4

CELL MEANS FOR SOCIAL SCIENCE GRADES (T-SCORES)

SES of Subject	Race of Tester	Race of Subject: Negro $\bar{X}$	Negro n	White $\bar{X}$	White n
Lower class	Negro	46.4	17	51.4	27
	White	48.0	17	55.6	17
	Combined	47.2	34	53.0	44
Middle class	Negro	48.3	12	50.9	24
	White	52.5	10	49.1	12
	Combined	50.2	22	50.3	36

English composition grades was also significant at the .05 level (see Tables 5 and 25). In addition, the race x SES interaction approached

TABLE 5

CELL MEANS FOR ENGLISH COMPOSITION GRADES

SES of Subject	Race of Tester	Race of Subject: Negro $\bar{X}$	Negro n	White $\bar{X}$	White n
Lower class	Negro	3.4	9	3.5	18
	White	3.1	10	3.3	12
	Combined	3.3	19	3.4	30
Middle class	Negro	2.6	7	3.3	12
	White	3.0	4	3.7	6
	Combined	2.7	11	3.4	18

Notes:

English Composition grades were translated into a 5-point scale (F = 1, A = 5).

The students were classified according to the race of the tester in order to make sure that the students assigned to different testers did not differ in ability.

significance ($p < .10$) for the Social Science grades; the middle-class Negroes and lower-class whites did particularly well.

However, Negroes and whites did not differ significantly in educational and occupational aspirations, or in the Social Science Interest, School Ambition, and School Interest-Total scores (Tables 6-8 and 26-30).

To explain this discrepancy between motivation and achievement, the hypotheses developed previously were tested.

TABLE 6

CELL MEANS FOR EDUCATIONAL ASPIRATION

SES of Subject	Race of Tester	Race of Subject: Negro $\bar{X}$	Negro n	White $\bar{X}$	White n
Lower class	Negro	2.7	20	2.9	26
	White	3.3	18	3.0	17
	Combined	3.0	38	2.9	43
Middle class	Negro	3.3	15	3.0	24
	White	3.3	11	3.0	13
	Combined	3.3	26	3.0	37

Note:

2 = an Associate of Arts degree (graduation from a junior college).

3 = a B.A. or other four year degree.

4 = graduate work.

TABLE 7

CELL MEANS FOR OCCUPATIONAL ASPIRATION

SES of Subject	Race of Tester	Race of Subject: Negro $\bar{X}$	Negro n	White $\bar{X}$	White n
Lower class	Negro	65.1	13	68.4	22
	White	72.3	11	65.9	16
	Combined	68.4	24	67.3	38
Middle class	Negro	71.3	12	63.2	19
	White	62.1	11	66.2	9
	Combined	66.9	23	64.2	28

TABLE 8

CELL MEANS FOR SOCIAL SCIENCE INTEREST, SCHOOL AMBITION, AND SCHOOL INTEREST--TOTAL

SES of Subject	Race of Tester	Score	Race of Subject: Negro $\bar{X}$	Negro n	White $\bar{X}$	White n
Lower class	Negro	Social Science Interest	9.4	18	9.4	25
		School Ambition	11.0	..	11.1	..
		School Interest--T	39.4	..	39.0	..
	White	Social Science Interest	9.6	17	9.5	17
		School Ambition	12.6	..	12.2	..
		School Interest--T	41.6	..	40.9	..
	Combined	Social Science Interest	9.5	35	9.4	42
		School Ambition	11.8	..	11.5	..
		School Interest--T	40.5	..	39.8	..
Middle class	Negro	Social Science Interest	9.4	13	9.1	23
		School Ambition	12.2	..	11.7	..
		School Interest--T	40.1	..	39.4	..
	White	Social Science Interest	8.4	10	8.5	13
		School Ambition	12.1	..	11.6	..
		School Interest--T	41.7	..	39.1	..
	Combined	Social Science Interest	9.0	23	8.9	36
		School Ambition	12.2	..	11.7	..
		School Interest--T	40.8	..	39.3	..

Hypothesis 1

Hypothesis 1 stated that racial differences in achievement are due to differences in academic aptitude, stemming from either heredity or environment. Race x SES x tester analyses of variance were performed to determine whether racial differences in aptitude existed. The race effect was significant at the .001 level for all four ACT scores (English, Math, Social Studies, and Natural Sciences), with white students earning higher scores. No other effects even approached significance (see Tables 9 and 31-34).

Among the correlations between ACT scores and Social Science grades (T-scores) that were computed separately for each race-SES subsample, one or more ACT scores correlated significantly with the Social Science grade T-scores in every subsample except the middle-class whites (see Table 10). If anything, the ACT scores were better predictors of grades for Negro students than for whites. Only one significant difference was found between correlations, the correlations of Social Studies ACT score for middle-class Negroes and middle-class whites.

The relatively low correlations between the ACT scores and the Social Science grades for the middle-class white students were probably partly due to the lack in variability of their ACT scores. The variance of the ACT-T scores of the middle-class whites who completed Social Science 101 was significantly lower than the variances of the ACT-T scores of the other three samples, according to F tests ($p < .05$ for all three comparisons). The low variance was probably due to the fact that bright middle-class white students tended not to complete the course. The biserial r between completing the course (0 = not completing, 1 = completing the course) and ACT-T was -.43* for the middle-class whites. For no other subsample was the same correlation significant. (It is possible that the brighter students were likely to find the course too easy for them and to become bored, particularly since white students on the whole had higher ACT scores than Negro students. One can only speculate as to why, if this was the case, it caused bright middle-class students to drop out, but not lower-class students. Perhaps the former

TABLE 9

CELL MEANS FOR ACT

SES of Subject	Race of Tester	ACT Test	Race of Subject: Negro $\bar{X}$	Negro n	White $\bar{X}$	White n
Lower class	Negro	English	10.7	13	16.9	25
		Math	11.1	..	17.2	..
		Social Studies	14.2	..	17.7	..
		Natural Science	12.9	..	18.3	..
	White	English	13.6	16	15.5	14
		Math	14.2	..	15.9	..
		Social Studies	14.5	..	20.7	..
		Natural Science	14.1	..	19.0	..
	Combined	English	12.3	29	16.4	39
		Math	12.8	..	16.7	..
		Social Studies	14.4	..	18.8	..
		Natural Science	13.5	..	18.6	..
Middle class	Negro	English	10.3	10	15.2	21
		Math	9.7	..	15.1	..
		Social Studies	12.9	..	18.2	..
		Natural Science	13.4	..	17.3	..
	White	English	13.2	9	17.5	10
		Math	11.7	..	16.8	..
		Social Studies	10.8	..	20.2	..
		Natural Science	15.2	..	17.7	..
	Combined	English	11.7	19	15.9	31
		Math	10.6	..	15.6	..
		Social Studies	11.9	..	18.9	..
		Natural Science	14.3	..	17.4	..

Note:

Most students took the ACT test during their senior year in high school. They were classified according to the race of the tester in the present study in order to make sure that the students assigned to white and Negro testers did not differ in ability.

TABLE 10

CORRELATIONS OF ACT SCORES WITH SOCIAL SCIENCE GRADES (T-SCORES), BY RACE-SES SUBSAMPLE

ACT Score	Negroes		Whites	
	Lower class (n=26)	Middle class (n=17)	Lower class (n=42)	Middle class (n=34)
English	.47*	.51*	.23	-.01
Mathematics	.31	.33	.34	.28
Social Studies	.49*	.69**	.28	.14
Natural Science	.51**	.50*	.32*	.10
Total (sum of the above)	.57**	.62**	.37*	.22

Note:

For the Social Studies score, the difference between the correlations for the middle-class Negroes and middle-class whites was significant at the .05 level. No other differences were significant.

*p < .05 (two-tailed test).

**p < .01 (two-tailed test).

had more other options available to them; perhaps they lacked persistence or some other motivational quality which kept them from going to a four-year college in the first place.)

To determine whether racial differences in achievement could be explained by differences in aptitude, a race x SES analysis of covariance was performed with the four ACT scores as covariates. In this analysis, the race effect was no longer significant; however, the race x SES effect barely missed significance ($p < .0502$), with the middle-class Negroes obtaining particularly good grades relative to their ability (see Tables 11 and 12). Because the interaction came so close to the arbitrary boundary of significance, between-cell differences were tested by the following analyses of covariance: lower- vs. middle-class

TABLE 11

ANALYSIS OF COVARIANCE OF SOCIAL SCIENCE GRADES (T-SCORES), WITH ACT SCORES AS COVARIATES

Source	df	ms	F	p
Race	1	81.42	1.06	n.s.
SES	1	17.82	< 1	n.s.
Race x SES	1	300.01	3.92	< .0502
Error	111	76.51		

TABLE 12

ESTIMATED MEANS FOR SOCIAL SCIENCE GRADES (T-SCORES) AFTER ELIMINATION OF ACT SCORES AS COVARIATES

	Race of Subject			
	Negro		White	
SES of Subject	$\bar{X}$	n	$\bar{X}$	n
Lower class	48.55	26	49.35	42
Middle class	52.27	17	46.24	34

Negroes, lower- vs. middle-class whites, lower-class Negroes vs. lower-class whites, and middle-class Negroes vs. middle-class whites. Of these comparisons, only that involving middle-class Negroes and middle-class whites was significant (see Table 13). The middle-class Negroes performed significantly better than the middle-class whites ($p < .03$), when their ACT scores were partialled out.[1]

In summary, within the present sample racial differences in achievement appear to be explained entirely by differences in academic

[1]A test of homogeneity of covariance indicated that the covariance matrices of the samples were not significantly different.

TABLE 13

ANALYSIS OF COVARIANCE OF SOCIAL SCIENCE GRADES (T-SCORES) FOR MIDDLE-CLASS SUBJECTS, WITH ACT SCORES AS COVARIATES

Source	df	ms	F	p
Race	1	329.36	4.68	< .03
Error	45	70.41		

aptitude as measured by the ACT scores. However, for middle-class students race was differentially related to over- and under-achievement with regard to aptitude. Middle-class Negroes overachieved relative to middle-class white students.

Hypothesis 2

Hypothesis 2 stated that Negro students obtain lower grades than white students because of motivational problems. This hypothesis was tested by performing analyses of variance on each of the motivational variables (Self-Concept of Ability, Test Anxiety, I-E score (and scores on the Control Ideology and Personal Control subscales), and need for achievement as measured by the French Test of Insight (see Tables 14-17 and 35-40). (To avoid spurious tester effects in these analyses, students in the one honors class were omitted.) There were no significant main effects due to race on any of these scales. The absence of a racial difference in Self-Concept of Ability is particularly noteworthy, in light of the significant racial differences in ACT scores and grades.

A number of interactions occurred that are not easily interpretable. The race x tester effect was significant on the I-E Scale and its subscale, the Control Ideology scale. Negro students with a white tester scored significantly higher on the I-E Scale than Negroes with a Negro tester ($p < .01$). In addition, significant race x SES x

TABLE 14

CELL MEANS FOR SELF-CONCEPT OF ABILITY

SES of Subject	Race of Tester	Race of Subject: Negro $\bar{X}$	Negro n	White $\bar{X}$	White n
Lower class	Negro	26.7	19	27.8	25
	White	28.9	18	27.7	17
	Combined	27.8	37	27.8	42
Middle class	Negro	28.4	15	26.3	24
	White	27.2	10	28.3	13
	Combined	27.9	25	27.0	37

TABLE 15

CELL MEANS FOR TEST ANXIETY

SES of Subject	Race of Tester	Race of Subject: Negro $\bar{X}$	Negro n	White $\bar{X}$	White n
Lower class	Negro	19.2	18	23.2	25
	White	18.7	15	19.6	17
	Combined	18.9	33	21.7	42
Middle class	Negro	20.8	13	20.4	22
	White	20.5	10	19.8	13
	Combined	20.6	23	20.2	35

TABLE 16

CELL MEANS FOR I-E, CONTROL IDEOLOGY, AND PERSONAL CONTROL

SES of Subject	Race of Tester	Score	Race of Subject: Negro $\bar{X}$	Negro n	White $\bar{X}$	White n
Lower class	Negro	Control Ideology	4.2	20	4.9	27
		Personal Control	2.3	..	2.3	..
		I-E	10.2	..	12.0	..
	White	Control Ideology	5.8	17	4.8	17
		Personal Control	2.1	..	2.9	..
		I-E	13.2	..	12.8	..
	Combined	Control Ideology	4.9	37	4.9	44
		Personal Control	2.2	..	2.5	..
		I-E	11.5	..	12.3	..
Middle class	Negro	Control Ideology	4.8	14	5.0	24
		Personal Control	2.0	..	2.6	..
		I-E	11.0	..	13.2	..
	White	Control Ideology	5.0	11	4.3	13
		Personal Control	2.9	..	2.3	..
		I-E	13.1	..	11.2	..
	Combined	Control Ideology	4.9	25	4.7	37
		Personal Control	2.4	..	2.5	..
		I-E	11.9	..	12.5	..

TABLE 17

CELL MEANS FOR NEED FOR ACHIEVEMENT

SES of Subject	Race of Tester	Race of Subject: Negro $\bar{X}$	Negro n	White $\bar{X}$	White n
Lower class	Negro	4.1	16	5.6	25
	White	5.2	14	4.3	17
	Combined	4.6	30	5.1	42
Middle class	Negro	5.5	12	4.2	24
	White	5.6	9	5.1	11
	Combined	5.5	21	4.5	35

tester interactions occurred on the Self-Concept of Ability scale and the Personal Control scale.

Even in the absence of significant racial differences in the levels of motivational variables, it is still possible that there are racial differences in the relationships of the different variables to achievement. Coleman et al. (1966), for example, have claimed that a sense of personal control was more highly related to achievement for Negro students than for white students. However, in the present study, sense of personal control as measured by the I-E scale and the Control Ideology and Personal Control subscales was unrelated to achievement in any of the subsamples (see Table 18).

The race of the tester apparently influenced the results for sense of personal control. For middle-class Negroes with a white tester, I-E score was significantly correlated with Social Science grades--T-scores ($r = .68$, $p < .05$), but with a Negro tester the relationship was not significant ($r = -.36$). For lower-class Negroes there were no significant correlations with testers of either race.

TABLE 18

CORRELATIONS OF MOTIVATIONAL VARIABLES WITH SOCIAL SCIENCE GRADES (T-SCORES), BY RACE-SES SUBSAMPLE
(n's are in parentheses)

	Negroes		Whites	
	Lower class	Middle class	Lower class	Middle class
Social Science Interest	.57* (30)	.15 (19)	.38* (46)	.10 (38)
School Interest--T	.29 (30)	.12 (19)	.19 (46)	.03 (38)
School Ambition	.16 (30)	.49* (19)	.39** (46)	.10 (38)
Educational Aspiration	.29 (33)	.70** (22)	.02 (47)	.20 (39)
Occupational Aspiration	-.18 (21)	.05 (19)	.27 (42)	-.04 (30)
Need for Achievement (French Test)	.15 (26)	.42 (17)	-.02 (46)	.06 (37)
I-E	.01 (32)	.14 (21)	.19 (48)	.18 (39)
Control Ideology	-.08 (32)	-.26 (21)	.10 (48)	.14 (39)
Personal Control	-.14 (32)	.00 (21)	.23 (48)	.11 (39)
Self-Concept of Ability	.42* (32)	.32 (21)	.19 (46)	.32* (39)
Test Anxiety	-.39* (28)	.17 (19)	-.20 (46)	-.55** (37)

*$p < .05$ (two-tailed test).

**$p < .01$ (two-tailed test).

No consistent racial trends appeared in the relationships of motivational variables to achievement; rather, the results were specific to each race-SES subsample (see Table 18).[1] For the lower-class Negroes, Social Science Interest, Test Anxiety, and Self-Concept of Ability were significantly correlated with achievement; for the middle-class Negroes, educational aspiration and School Ambition; for the lower-class whites, Social Science Interest and School Ambition; and for the middle-class whites, Self-Concept of Ability and Test Anxiety. (For all subsamples except the middle-class Negroes, Self-Concept of Ability and Test Anxiety were significantly negatively correlated; that is, those subjects with good self-concepts reported less anxiety on examinations.)

In summary, the present data provide no indications that the Negro students in the present sample were less motivated than the white students, or showed a different pattern of relationships of motivational variables to achievement. If anything, cross-racial similarities were greater than similarities within race. The lower-class Negroes were similar to the lower-class whites in that for both, Social Science Interest was significantly correlated with grades; they were similar to the middle-class whites, in that for both, Self-Concept of Ability and Test Anxiety were significant correlates of grades. The middle-class Negroes were similar to the lower-class whites in that for both, School Ambition was a significant correlate of grades.

Hypothesis 3

Hypothesis 3 stated that the absence of racial differences in motivation to achieve might be due to the fact that the Negro students might be giving socially desirable responses. If this were the case, it would be predicted that racial differences might be obtained on some of

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[1]Because tester effects occurred with some of the scales, race of tester was corrected for by computing the correlation separately for each race of tester, and then combining the correlations. However, only rarely did the combined correlation differ from the zero order correlation by more than .04. For this reason, only the zero order correlations are reported.

the less obvious scales that would be more difficult to fake, such as the FTI test for need for achievement, but that racial effects would not be obtained on any of the more obvious measures, such as School Interest, level of aspiration, etc. This hypothesis was not supported by the analyses of variance, as racial effects were found on none of the scales, of any degree of obviousness (see Tables 6, 7, 8, and 17, and Tables 26-30 and 40).

In their correlations with Social Science grades (T-scores), the results for obvious and projective scales were, in general, parallel (see Table 18). For the middle-class Negroes, several measures correlated highly with Social Science grades, both obvious and projective. The correlations were .70 ($p < .01$) for educational aspiration, .49 ($p < .05$) for School Ambition, and .42 ($p < .10$) for need for achievement. For the lower-class Negroes and middle-class whites, the correlations for the same variables were low (below .30) and nonsignificant. Only for the lower-class whites were the results for the different measures not parallel; School Ambition correlated .39 ($p < .01$) with Social Science grades, but need for achievement and educational aspiration were uncorrelated with grades.

There were no racial differences in Social Desirability (see Tables 19 and 41). The correlations of the Social Desirability scale with the measures of aspiration and motivation to achieve were generally nonsignificant for both obvious and projective measures (see Table 20). Among the obvious scales, the majority of the correlations were low but positive. (However, the only significant correlation was negative; for lower-class Negroes, a high Social Desirability score was associated with low educational aspirations.) The Social Desirability scale used is a rather poor measuring instrument, since it is a short scale consisting of rather heterogeneous items (see Table 3). Standing alone, evidence based on this scale would be unconvincing; however, in the present study it is consistent with and supports other evidence that approval-seeking on the part of Negro students was not responsible for lack of racial differences in motivation to achieve.

There seems to have been some tendency to give socially desirable responses to the white tester; however, the effect was generally

TABLE 19

CELL MEANS FOR SOCIAL DESIRABILITY

SES of Subject	Race of Tester	Race of Subject: Negro $\bar{X}$	Negro n	White $\bar{X}$	White n
Lower class	Negro	5.7	19	5.2	25
	White	5.8	17	5.7	17
	Combined	5.7	34	5.4	42
Middle class	Negro	5.6	15	5.2	23
	White	6.2	11	5.0	13
	Combined	5.8	26	5.1	36

TABLE 20

CORRELATIONS OF SOCIAL DESIRABILITY WITH OBVIOUS AND PROJECTIVE MEASURES OF ACHIEVEMENT MOTIVATION
(n's are in parentheses)

	Negroes		Whites	
	Lower class	Middle class	Lower class	Middle class
Obvious Measures				
Educational aspiration	-.33* (35)	.11 (26)	.03 (46)	.09 (41)
Occupational aspiration	.07 (22)	.32 (23)	-.08 (41)	.31 (31)
School Ambition	-.05 (34)	-.02 (23)	.13 (47)	.18 (40)
School Interest--T	.02 (34)	.28 (23)	.23 (47)	.25 (40)
Projective Measure				
Need for achievement (French Test)	-.17 (30)	-.04 (21)	.20 (46)	-.02 (38)

*$p < .05$ (two-tailed test).

equal for Negro and white subjects (see Table 8, and Tables 29 and 30). On School Interest-T, there was a major effect for tester, with higher scores obtained by the white tester, but no interaction with race or SES of subject. On the School Ambition subscale of the School Interest scale, there was a significant tester x SES interaction ($p < .05$), with lower-class subjects expressing more scholastic ambition when tested by the white tester. Thus, if anything, lower-class subjects rather than Negro subjects were more influenced by the authority of the tester. (This effect was probably not entirely a racial effect, as the white tester was more conservatively dressed than the main Negro tester, and some of the subjects probably knew that she was a teacher at Loop College.)

In summary, there is no evidence here that the similar interest in education and level of aspiration of Negro and white students--a common research finding--is due to any special tendency of Negro students to give socially desirable responses.

Beyond the Original Hypotheses

Since none of the hypotheses other than the first, which blamed low Negro achievement on low ability, was supported, the possibility must be faced that the results are meaningless, that the subjects were responding to the questionnaires carelessly and with little thought. This was clearly not the case, as significant and meaningful patterns emerged among the four race-SES subsamples, although not the patterns predicted by the hypotheses. The intercorrelations among the major variables, for the four subsamples, are presented in Tables 42 and 43.

For the lower-class Negro students, ACT scores, Social Science Interest, and Self-Concept of Ability were significantly positively correlated with Social Science grades (T-Scores), and Test Anxiety was significantly negatively correlated with them (see Table 18).

However, in the stepwise regression (see Table 21), after ACT--English had entered the multiple R, the only significant partial correlation with Social Science grades was the Social Science Interest score (.65, $p < .01$, which brought the multiple R to .80, $p < .001$). (The failure of the partial r for Test Anxiety to reach significance was due

TABLE 21

STEPWISE MULTIPLE REGRESSION RESULTS, WITH SOCIAL SCIENCE GRADE (T-SCORE) AS THE DEPENDENT VARIABLE

Variable(s) Entering	r	Multiple R	Remaining Variables	Partial r
Lower-class Negroes (n = 22)				
ACT--English	.62**			
			ACT--Math	-.04
			ACT--Social Studies	.33
			ACT--Natural Science	.09
			Social Science Interest	.65**
			Test Anxiety	-.29
			Tester	-.16
ACT--English plus Social Science Interest		.80***		
Middle-class Negroes (n = 17)				
ACT--Social Studies	.69**			
			ACT--English	.18
			ACT--Math	.00
			ACT--Natural Science	.07
			Educational Aspiration	.53*
			Tester	.42
ACT--Social Studies plus Educational Aspiration		.79**		

TABLE 21--Continued

Lower-class whites (n = 40)			
Social Science Interest	.39*		
		ACT--English	.28
		ACT--Math	.34*
		ACT--Social Studies	.23
		ACT--Natural Science	.21
		School Ambition	.22
		Tester	.12
Social Science Interest plus ACT--Math	.50**		
Middle-class whites (n = 32)			
Test Anxiety	.47**		
		ACT--English	-.02
		ACT--Math	.18
		ACT--Social Studies	-.06
		ACT--Natural Science	.14
		Success Goals	-.17
		Self-Concept of Ability	.03
		Tester	-.34

*p < .05 (two-tailed test).

**p < .01 (two-tailed test).

***p < .001 (two-tailed test).

not only to its lower correlation with grades, but also to its higher correlation with the ACT--English score.) Apparently interest in the social sciences was the only motivational variable that contributed to achievement, independently of aptitude, for the lower-class Negroes; probably the relationships of Self-Concept of Ability and Test Anxiety to grades were mainly due to their relationship to ability and represented a realistic self-appraisal but one that was only moderately detrimental to achievement.

For the middle-class Negroes, School Ambition and educational aspiration were significantly correlated with Social Science grades; need for achievement was correlated .42 with Social Science grades but this correlation only approached significance ($p < .10$ for the small n). All of these scores were, of course, moderately correlated with each other; for this reason, only educational aspiration was used in the multiple regression analysis.

After the ACT--Social Studies score had entered the multiple R, the only significant partial correlation with grades was educational aspiration (.53, $p < .05$) which raised the multiple R to .79 ($p < .01$). Clearly, for middle-class Negroes, high achievement is due to traditional types of motives to achieve.

For the lower-class white students, Social Science Interest and School Ambition were significantly and approximately equally correlated with Social Science grades. Since Social Science Interest was more highly correlated with Social Science grades than any other variable, it was the first to enter the multiple R; after it had entered, only the ACT--Math score had a significant partial correlation with grades (.34, $p < .05$). The multiple R became .50 ($p < .01$) when it had entered. School Ambition failed to reach significance in part because it was correlated with Social Science Interest (.35, $p < .05$); its role in achievement cannot be neglected simply because Social Science Interest had a slightly but not significantly higher zero order correlation with Social Science grades and therefore entered the multiple R first.

Among middle-class white students, Self-Concept of Ability was significantly positively correlated with Social Science grades, and Test

Anxiety was significantly negatively correlated with grades. (These scores were negatively correlated with each other; $r = -.52$, $p < .01$.) Test Anxiety was the first to enter the multiple R, with a correlation of .47 ($p < .01$); at that point no other variable had a significant partial correlation with Social Science grades. Obviously, however, anxiety during examinations is not solely the cause of poor achievement among middle-class white students; its relationship to self-concept, and probably to other variables as well, must be considered. For this subsample, Self-Concept of Ability was more independent of aptitude than for any other; this was the only subsample in which Self-Concept of Ability was not significantly correlated with any of the ACT scores. These subjects may be examples of what Roth and Meyersberg (1963) have called the "non-achievement syndrome," the victim of which suffers from a lack of self-esteem and is frequently depressed and anxious. He is without a system of personal values and goals, and is quite vulnerable to disparagement by others. If this is the case for the present sample, it is probably due to selection, since middle-class students who do not have problems about achievement would normally be expected to go to four-year colleges.

Thus, if any subsample had problems about motivation it was the middle-class white students. Their relatively high aptitude was not translated into achievement; their self-concepts were irrational, in that they were unrelated to their abilities; and those who were high in Test Anxiety were performing particularly poorly. They were not significantly higher in Test Anxiety than the other subsamples; but Test Anxiety had a stronger relationship to achievement, and aptitude a weaker relationship, than in any other subsample. It might be speculated that perhaps they were less able to cope with anxiety than the other samples; perhaps anxiety had a greater disruptive effect, leading to avoidance rather than coping behavior.

CHAPTER IV

DISCUSSION

Hypothesis 1, that racial differences in achievement can be explained by differences in aptitude, was the only hypothesis that was supported. The racial differences in ACT scores were highly significant, and racial differences in achievement disappeared when ACT scores were used as covariates in an analysis of covariance design.

Hypothesis 3, that the apparent equality of Negro and white interest in school is not genuine but results from greater distortion of Negro responses to please the researcher who is in the role of an authority figure, was not supported. The tester effects were not related to race of subject; subjects of both races expressed more interest in school with a white tester, and for the School Ambition scores the interaction of social class by tester was significant.

In addition, the results obtained with obvious measures of desire to achieve, such as the School Ambition score and educational aspirations, were similar to the results obtained with a projective measure of need for achievement, the French Test of Insight.

Hypothesis 2 stated that racial differences in achievement might be explained by motivational characteristics such as Need for Achievement, Self-Concept of Ability, Test Anxiety, and sense of personal control over one's life. Either racial differences in the level of motivation or differences in the relationships of the variables to achievement might be involved. Contrary to previous studies, no differences in level of motivation were obtained. These discrepant results might have been due to the unusually careful control for SES in the present study, which was lacking in some previous studies (Coleman et al., 1966; Morse, 1963).

Where SES has been controlled, more complex results involving interactions have been obtained (Battle & Rotter, 1963; Rosen, 1959).

However, the results may quite possibly result from the selective factors in who goes to a public urban junior college. Undoubtedly, the Negro students who attend such a junior college are more motivated to achieve than their more numerous peers who do not attend college at all. The white students in attendance, especially those from middle-class backgrounds, are likely, in both ability and motivation, to fall below their peers who attend four-year colleges. These alternative explanations could be tested by doing a study comparable to the present one with a less selected sample, such as high school students.

However, it is difficult to see how selection could explain the lack of racial differences in the relationships of motivational variables to achievement. If anything, the social class effect seemed more important than the racial effect, as for both the lower-class Negro and the lower-class white subsample, Social Science Interest was the most important correlate of achievement aside from aptitude. The importance of interest in a field to achievement in that field has been largely neglected in previous research, because most previous studies of achievement have used a more global measure such as grade point average. But the importance of interest in a subject is certainly consistent with the lower-class emphasis on immediate rather than deferred gratification. This finding provides some support for student demands for "relevance" in courses. It is possible that an understanding of our society is more important and interesting to those who are at the bottom of it. (The author has noted great interest in the topic of social class in introductory sociology classes at Loop College.)

However, for the middle class the results for white and Negro subsamples were quite different. For the middle-class Negro students, variables that relate to traditional motives to achieve--educational aspiration, School Ambition, need for achievement--were important correlates of achievement. The existence of a group of Negro students in whom aspirations lead to achievement should not be ignored, when so many investigators claim that Negro students are not motivated to achieve academically.

However, the question must be raised as to why educational aspirations, the School Ambition score, etc., were uncorrelated with achievement for lower-class Negro and white subjects. There were no social class differences on these variables or others that might be considered crucial. It is possible that some other variable not included, in the present analysis, such as perceptions of occupational opportunity, is preventing motivation from being translated into achievement.

If any group had debilitating motivational problems, it was the middle-class whites. Their ACT scores were less highly correlated with achievement and their Test Anxiety scores more negatively correlated with it than for any other subsample, and their Self-Concept of Ability was relatively unrelated to aptitude. These students may be suffering from the nonachievement syndrome described by Roth and Meyersberg (1963), characterized by lack of self-confidence, feelings of depression and anxiety, lack of goals, and vulnerability to disparagement by others. Since the middle-class white students would be the group most likely to go to a four-year college, because of their relatively high aptitude and their parents' relatively high income, it is perhaps not surprising that this group in an urban junior college should show the most evidence of motivational difficulties. Those who did not have such problems would probably be in a four-year college.

One of the most striking findings of the study was the failure to replicate previous findings on sense of personal control. A factor analysis of the I-E scale did not yield the Control Ideology and Personal Control factors found by Gurin et al. (1969) among Negroes (see Appendix C). The I-E and Personal Control scores were generally unrelated to achievement among both Negroes and whites.

The responses to the I-E scale were apparently affected by the race of the tester; Negro subjects obtained significantly higher I-E scores with a white tester than a Negro tester. Also, for the middle-class Negro students with a white tester, I-E was significantly correlated with Social Science grades; however, this correlation was not significant with the Negro tester. It is impossible to assess the extent to which tester effects may explain the results obtained by Gurin et al. (1969),

as they provide no information on race of tester. However, Coleman's finding that Negro students had a higher sense of personal control in integrated classrooms could have been due to the race of tester if we make the reasonable assumption that the teacher (tester) was more likely to be white in an integrated classroom than in an all-Negro classroom.

Geographical area is another factor that must be considered. Gurin's (1969) and Lao's (1970) research, which highlighted the importance of sense of personal control, was done with southern Negro college students. Sense of personal control may perhaps be more problematic, and therefore more related to achievement, for southern Negroes than for northern Negroes.

Certainly, however, the findings of the present study cast doubt on Katz and Gurin's confident statement that "The one personality characteristic that most clearly differentiates both children and adults of the two races, and that also appears to be closely related to achievement, is Rotter's sense of fate control." (Katz & Gurin, 1969) Further research will be needed to determine whether contradictory research findings are due to weaknesses in the I-E scale or to the different samples used, or whether the role of personal control itself has been overemphasized.

APPENDIX A

ADMINISTRATION OF THE QUESTIONNAIRE

In each class, the instructor asked for the class's participation in the research, and when it was granted, introduced the tester to the class. The tester read the following introduction to the class:

> I would like to ask you to take part in a research study which involves students' success in school and on the job. What is learned from you, in this research, will be used to help other students to get what they want out of life. This is not a personality test, in that your answers to it will not show whether you are mentally healthy or neurotic. It is not intelligence test.
>
> As your part of this research, I am asking you to fill out this questionnaire. Your answers will be seen only by people working on the research project, and will not become part of your record at Loop. You are asked to give your names, but this is only so we can obtain other information about you later. As soon as we have collected the questionnaires, each student will be assigned a code number, the part of the page with the name on it will be cut off on the dotted line [here the tester demonstrated on page 69], and your booklet will be identified from then on by your code number rather than by name. Your answers will be completely confidential, so please answer honestly. If there is any item that you would rather not answer, you may leave it blank, but please answer all the items if possible. A few of the questions may seem somewhat personal, but all are important to the purpose of the research.
>
> Do you have any questions?
>
> If there are no (more) questions, I'll pass out the questionnaires.
>
> The questionnaire has several parts, and each part has its own instructions. Please work carefully, but do not spend too much time on any one item. Your first reaction to the item is usually the best one. If you have any questions, please raise your hand.

There are slight differences between the questionnaires for men and women. Men, please take the booklets with blue covers; women, take booklets with yellow covers.

Ten minutes before the end of the class period, the researcher said, "If any of you have not started on the background information yet, could you please start it now?"

APPENDIX B

THE QUESTIONNAIRE

Instructions

This is a questionnaire to find out the way in which certain important events in our society affect different people. Each item consists of a pair of alternatives numbered "1" or "2." Please select the one statement of each pair (and only one) which you more strongly believe to be the case as far as you're concerned. Be sure to select the one you actually believe to be more true rather than the one you think you should choose or the one you would like to be true. Circle the number of the statement you choose, either 1 or 2. This is a measure of personal belief; obviously there are no right or wrong answers.

On some items, you may discover that you believe both statements or neither one. In such cases, be sure to select the one you more strongly believe to be the case as far as you're concerned. Also try to respond to each item independently when making your choice; do not be influenced by your previous choices.

1. 1. Children get into trouble because their parents punish them too much.

   2. The trouble with most children nowadays is that their parents are too easy with them.

2. 1. Many of the unhappy things in people's lives are partly due to bad luck.

   2. People's misfortunes result from the mistakes they make.

3. 1. One of the major reasons why we have wars is because people don't take enough interest in politics.

   2. There will always be wars, no matter how hard people try to prevent them.

4. 1. In the long run people get the respect they deserve in this world.

   2. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries.

5. 1. The idea that teachers are unfair to students is nonsense.

   2. Most students don't realize the extent to which their grades are influenced by accidental happenings.

6. 1. Without the right breaks one cannot be an effective leader.

   2. Capable people who fail to become leaders have not taken advantage of their opportunities.

7. 1. No matter how hard you try some people just don't like you.

   2. People who can't get others to like them don't understand how to get along with others.

8. 1. Heredity plays the major role in determining one's personality.

   2. It is one's experiences in life which determine what they're like.

9. 1. I have often found that what is going to happen will happen.

   2. Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.

10. 1. In the case of the well prepared student there is rarely if ever such a thing as an unfair test.

    2. Many times exam questions tend to be so unrelated to course work that studying is really useless.

11. 1. Becoming a success is a matter of hard work, luck has little or nothing to do with it.

    2. Getting a good job depends mainly on being in the right place at the right time.

12. 1. The average citizen can have an influence in government decisions.

    2. This world is run by the few people in power, and there is not much the little guy can do about it.

13. 1. When I make plans, I am almost certain that I can make them work.

    2. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.

14. 1. There are certain people who are just no good.

    2. There is some good in everybody.

15. 1. In my case getting what I want has little or nothing to do with luck.

    2. Many times we might just as well decide what to do by flipping a coin.

16. 1. Who gets to be the boss often depends on who was lucky enough to be in the right place first.

    2. Getting people to do the right thing depends upon ability, luck has little or nothing to do with it.

17. 1. As far as world affairs are concerned most of us are the victims of forces we can neither understand, nor control.

    2. By taking an active part in political and social affairs the people can control world events.

18. 1. Most people don't realize the extent to which their lives are controlled by accidental happenings.

    2. There really is no such thing as "luck."

19. 1. One should always be willing to admit mistakes.

    2. It is usually best to cover up one's mistakes.

20. 1. It is hard to know whether or not a person really likes you.

    2. How many friends you have depends upon how nice a person you are.

21. 1. In the long run the bad things that happen to us are balanced by the good ones.

    2. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.

22. 1. With enough effort we can wipe out political corruption.

    2. It is difficult for people to have much control over the things politicians do in office.

23. 1. Sometimes I can't understand how teachers arrive at the grades they give.

    2. There is a direct connection between how hard I study and the grades I get.

24. 1. A good leader expects people to decide for themselves what they should do.

    2. A good leader makes it clear to everybody what their jobs are.

25. 1. Many times I feel that I have little influence over the things that happen to me.

    2. It is impossible for me to believe that chance or luck plays an important role in my life.

26. 1. People are lonely because they don't try to be friendly.

    2. There's not much use in trying too hard to please people, if they like you, they like you.

27. 1. There is too much emphasis on athletics in high school.

    2. Team sports are an excellent way to build character.

28. 1. What happens to me is my own doing.

    2. Sometimes I feel that I don't have enough control over the direction my life is taking.

29. 1. Most of the time I can't understand why politicians behave the way they do.

    2. In the long run the people are responsible for bad government on a national as well as on a local level.

A Test of Insight

This is a test of your understanding of the reasons why people behave as they do. You will be given a characteristic behavior of each of a number of men. Your task is to explain why each man behaves as he does. Read each description and then decide what you think would usually be the reason why a man does what this man does. Decide what this man is like, what he wants to have or do, and what the results of his behavior are apt to be. Write your explanation in the spaces in the booklet. [Four lines were provided for each item.] If you think of more than one explanation give the one you think is most important.

1. Mike never hesitates to express an opinion.
2. Art likes a good argument.
3. Jimmy never keeps anything to himself.
4. Ron said, "Look what I've done."
5. Chuck worries a lot about how he has done on exams.
6. Frank cares very little about what other people think of him.
7. Don gives lots of parties.
8. Tony works much harder than most people.
9. Bob enjoys being a member of a large family.
10. Wayne will usually volunteer for a difficult task.

Personal Reaction Inventory

Listed below are a number of statements concerning personal attitudes and traits. Read each item and decide whether the statement is true or false as it pertains to you personally. Circle the appropriate letter, T or F, opposite the item.

1. When I don't know something I don't at all mind admitting it. T F
2. I sometimes feel resentful when I don't get my way. T F
3. On a few occasions, I have given up doing something because I thought too little of my ability. T F
4. There have been times when I was quite jealous of the good fortune of others. T F
5. I never make a long trip without checking the safety of my car. T F
6. I always try to practice what I preach. T F
7. I'm always willing to admit it when I make a mistake. T F
8. I am sometimes irritated by people who ask favors of me. T F
9. My table manners at home are as good as when I eat out in a restaurant. T F
10. I would never think of letting someone else be punished for my wrong-doings. T F

Attitudes Toward School

Circle the number in front of the statement which best answers each question.

1. How do you rate yourself in school ability compared with your close friends?

    1. I am the best
    2. I am above average
    3. I am average
    4. I am below average
    5. I am the poorest

2. How do you rate yourself in school ability compared with those in your class at school?

    1. I am among the best
    2. I am above average
    3. I am average
    4. I am below average
    5. I am among the poorest

3. Where do you think you would rank in your class in high school?

    1. among the best
    2. above average
    3. average
    4. below average
    5. among the poorest

4. Do you think you have the ability to complete college?

    1. yes, definitely
    2. yes, probably
    3. not sure either way
    4. probably not
    5. no

5. Where do you think you would rank in your class in college?

    1. among the best
    2. above average
    3. average
    4. below average
    5. among the poorest

6. In order to become a doctor, lawyer, or university professor, work beyond four years of college is necessary. How likely do you think it is that you could complete such advanced work?

   1. very likely
   2. somewhat likely
   3. not sure either way
   4. unlikely
   5. most unlikely

7. Forget for a moment how others grade your work. In your own opinion how good do you think your work is?

   1. my work is excellent
   2. my work is good
   3. my work is average
   4. my work is below average
   5. my work is much below average

8. What kind of grades do you think you are capable of getting?

   1. mostly A's
   2. mostly B's
   3. mostly C's
   4. mostly D's
   5. mostly (E's) F's

9. How interesting to you is Social Science 101?

   1. Completely dull and uninteresting
   2. Somewhat dull
   3. All right
   4. Somewhat interesting
   5. Very interesting

10. How related to your interests and career goals is Social Science 101?

    1. Completely unrelated to my interests and career goals.
    2. Somewhat unrelated
    3. Somewhat related
    4. Strongly related to my interests and career goals.

11. Would you take Social Science 101 if it were not required?

1. Definitely no
2. Probably no
3. Probably yes
4. Definitely yes

12. During the last school year, did you ever stay away from school just because you didn't want to come?

1. no
2. yes, for 1 or 2 days
3. yes, for 3 to 6 days
4. yes, for 7 to 15 days
5. yes, for 16 or more days

13. How many books did you read (not including those required for school) over the past summer? Do not count magazines.

1. none
2. 1 or 2
3. 3 to 5
4. 6 to 10
5. 11 or more

14. How good a student do you want to be in school?

1. one of the best students in my class
2. above the middle of the class
3. in the middle of my class
4. just good enough to get by
5. I don't care

15. If something happened and you had to stop school now, how would you feel?

1. very happy--I'd like to quit
2. I wouldn't care one way or the other
3. I would be disappointed
4. I'd try hard to continue
5. I would do almost anything to stay in school

General directions

Following is a list of statements about YOU. Reach each statement carefully! Then decide whether this statement is how you always feel, usually feel, sometimes feel or never feel.

Number	Meaning of Number
1	This statement would never describe the way I feel.
2	This statement sometimes describes the way I feel.
3	This statement usually describes the way I feel.
4	This statement always describes the way I feel.

Try to answer each statement--if possible, do not leave any blank.

There are no right or wrong answers. The answers apply only to you. The way you answer these statements will not affect your school marks in any way. Circle the number that best describes how you feel.

It is best to mark your first impression, try not to change your answer. If you change an answer, erase completely your first choice. Remember to answer the statements as they apply to you!

EXAMPLE:

1. I feel it is always a good thing to be honest. 1 (2) 3 4

This individual has chosen number "2" for the statement "I feel it is always a good thing to be honest." This means he feels that this statement sometimes describes him.

		Never	Sometimes	Usually	Always
1.	Nervousness while taking an exam or test hinders me from doing well.	1	2	3	4
2.	I like to study.	1	2	3	4
3.	In a course where I have been doing poorly, my fear of a bad grade cuts down my efficiency.	1	2	3	4
4.	I like to make the best grades possible.	1	2	3	4
5.	I feel that I haven't any goals or purpose in life.	1	2	3	4
6.	I find that my mind goes blank at the beginning of an exam, and it takes me a few minutes before I can function.	1	2	3	4
7.	I have a hard time concentrating on the subject during class periods.	1	2	3	4
8.	The more important the exam, the less well I seem to do.	1	2	3	4
9.	When I am poorly prepared for an exam or test, I get upset, and do less well than even my restricted knowledge should allow.	1	2	3	4
10.	I want very much to be a success.	1	2	3	4
11.	I am so tired from worrying about an exam, that I find I almost don't care how well I do by the time I start the test.	1	2	3	4
12.	Most of my school subjects are a complete waste of time.	1	2	3	4
13.	When I don't do well on a difficult item at the beginning of an exam, it tends to upset me so that I block on even easy questions later on.	1	2	3	4
14.	I like just about everything about school.	1	2	3	4
15.	I find myself reading exam questions without understanding them, and I must go back over them so that they will make sense.	1	2	3	4

		Never	Sometimes	Usually	Always
16.	Time pressure on an exam causes me to do worse than the rest of the group under similar conditions.	1	2	3	4
17.	It is difficult for me to keep interested in most of my school subjects.	1	2	3	4
18.	During exams or tests, I block on questions to which I know the answers, even though I might remember them as soon as the exam is over.	1	2	3	4

Code No._____
(for project use)

Background Information

As part of this study, we would like to know something about you. For each question, circle the number which corresponds to your answer.

1. Sex:

   1. Male
   2. Female

2. Age: (circle your answer)

   18
   19
   20
   21
   22
   23
   24
   25
   26 and older

3. Race:

   1. Black (Negro)
   2. White (Caucasian)
   3. Other (please specify:_____)

It is necessary for us to ask for your name so that we can obtain further information. However, once you have been assigned a code number to identify your questionnaire by, your name will be removed from the questionnaire and it will be identified only by the number. The questionnaires will be seen only by people who are working on the research project, and your answers will be completely confidential.

Name_____ Code No._____
(for project use)

If you would like to learn the results of this study, please put an address where you can be reached a year from now:

Street_____

City and State_____

4. What is your father's occupation? Please be specific, describe just what he does.

   (If deceased, what did he do? If you have lived with a stepfather for five years or more, answer the question for him.)

   _____

   _____

   _____

5. What is your mother's occupation? Please be specific.

   (If deceased, what did she do? If you have lived with a stepmother for five years or more, answer the question for her.)

   _____

   _____

   _____

6. What was your father's education? Circle the number for your answer.

   1. Eighth grade or less.
   2. Some high school, but didn't graduate.
   3. Graduated from high school.
   4. Some college, but didn't graduate.
   5. Graduated from college.

7. What was your mother's education?

   1. Eighth grade or less.
   2. Some high school, but didn't graduate.
   3. Graduated from high school.
   4. Some college, but didn't graduate.
   5. Graduated from college.

8. What year did you graduate from high school? (Circle your answer.)

1969
1968
1967
1966
1965
1964
1963
1962
1961
1960 or earlier

9. What are your plans for an education?

1. I am taking courses but not working for a degree.
2. I plan to get an AA degree (graduate from a junior college).
3. I plan to get a BA or some other degree granted by a four-year college.
4. I plan to do graduate work after graduating from a four-year college.

10. Five years after completing your education, what job do you plan to have?

_____

_____

_____

_____

11. Since graduating from high school have you attended any other schools besides Loop?

    1. No
    2. Yes

12. What grade do you expect to get in Social Science 101?

    1. Probably A.
    2. Probably B.
    3. Probably C.
    4. Probably D.
    5. Probably F.

13. Below is a list of clubs and organizations at Loop College. Please circle the numbers of those you are a member of, or plan to join.

    1. ASPA (Academic Society for Political Affairs)
    2. Afro-American Club
    3. Associate Collegiate Players (national honor society in drama)
    4. Biology Club
    5. Black Student Union

    6. Black Tambua Club
    7. Campus Crusade for Christ
    8. Chess Club
    9. College Life (nondenominational Christian organization)
    10. Computer Club

    11. Debate Club
    12. Fencing Club
    13. Fine Arts League
    14. Folk Music Club
    15. Garland Court Review (literary magazine)

    16. International Students Club
    17. Karate Club
    18. Loop College Chorus
    19. Loop College Theatre
    20. Loop whole (student newspaper)

    21. Modern Dance Club
    22. Music Educators' National Conference (MENC)
    23. Organization for Latin American Students (OLAS)
    24. Owls Club (tutoring)
    25. Phi Beta Lambda (Business Club)

26. Phi Theta Kappa (honorary scholastic society)
27. Reader's Theater
28. Ski Club
29. Students for a Democratic Society (SDS)
30. Student Government

31. Student Mobilization Committee (anti-war organization)
32. Sweepers, Limited
33. Third World Coalition (student newspaper by the Afro-American Student Association, Black Tambua Club, and OLAS)
34. Writers' Workshop

Thank you for taking part in this study. Remember that other classes will be receiving this questionnaire, and the study would be spoiled if they had heard about it in advance. Please do not discuss the study with other Loop students.

APPENDIX C

RESULTS OF FACTOR ANALYSES OF THE ROTTER I-E SCALE

Separate factor analyses of the I-E scale were performed for Negro and white subjects. The I-E items were intercorrelated with Pearson product moment correlations, and were factor analyzed by the principal components method, with multiple R's in the diagonal. An orthogonal rotation of the factor matrix was performed. Although some general factors appeared, none corresponded to the first person (Personal Control) and third person (Control Ideology) factors found by Gurin et al. (1969).

For Negro students (see Table 22), the first factor had a number of items relating to chance or accident ("It is impossible for me to believe that chance or luck plays an important role in my life," "Most people don't realize the extent to which their lives are controlled by accidental happenings," etc.) The second factor related to political control, with high loadings for items such as "One of the major reasons why we have wars is because people don't take enough interest in politics," and "With enough effort we can wipe out political corruption." The third factor referred to interpersonal relationships, to being liked by others and being a leader.

For the white students (see Table 23), the first factor was difficult to interpret. It contained some very general items with no specific content ("Sometimes I feel that I don't have enough control over the direction my life is taking,") and some items which related to interpersonal relationships ("There's not much use in trying too hard to please people, if they like you, they like you.") The second factor

related to control over academic life ("There is a direct connection between how hard I study and the grades I get,") and the third factor related to luck and occupational success ("Who gets to be the boss often depends on who was lucky enough to be in the right place first.")

Because both samples involved few subjects, the factors obtained cannot be considered definitive. However, the Gurin et al. factors definitely did not emerge. In each sample, there were one general factor and two specific factors. The specific factors were related to a sense of personal control in a particular content area (politics, interpersonal relations, school, occupation).

TABLE 22

FACTORS OBTAINED FROM FACTOR ANALYSIS OF I-E SCALE--NEGROES

Item No.	Factor 1 Lack of Control Due to Luck, Accident	Factor 2 Political Control	Factor 3 Occupational Control
2	.27	.06	-.22
3	.01	-.61	.13
4	-.12	.08	-.13
5	-.42	-.04	-.04
6	.13	.05	-.54
7	-.02	.02	-.52
9	.05	.05	-.11
10	-.05	.14	-.06
11	-.32	.55	.20
12	-.35	.13	-.10
13	-.25	-.06	.16
15	-.26	.27	.36
16	-.04	.09	-.10
17	.54	.12	-.01
18	.56	-.02	-.21
20	.10	.23	-.06
21	.15	-.20	.24
22	-.25	-.55	.07
23	.00	-.01	-.26
25	.63	.00	-.02
26	.11	-.10	.59
28	-.04	-.33	.01
29	.10	.15	-.03

TABLE 23

FACTORS OBTAINED FROM FACTOR ANALYSIS OF I-E SCALES--WHITES

Item No.	Factor 1 General-interpersonal Control	Factor 2 Academic Control	Factor 3 Occupational Control
2	-.08	-.05	.09
3	.03	.07	-.02
4	.09	-.21	.02
5	.03	-.31	-.02
6	-.38	-.06	.09
7	.03	-.06	-.01
9	-.27	.09	.00
10	.35	-.48	-.18
11	.30	-.12	-.67
12	-.15	-.24	-.38
13	.21	.48	-.11
15	.13	.19	-.56
16	.05	.08	.50
17	-.04	-.06	.20
18	-.08	.04	.13
20	-.01	.08	.07
21	-.29	-.04	.06
22	.04	.03	-.12
23	-.15	.55	.02
25	-.46	.00	.21
26	.56	-.12	-.14
28	.37	-.19	.16
29	-.02	.32	.02

APPENDIX D

ANALYSES OF VARIANCE

TABLE 24

ANALYSIS OF VARIANCE OF SOCIAL SCIENCE GRADES (T-SCORES)

Source	df	Mean Square	F	P
Race	1	447.72	4.72	< .05
SES	1	.43	< 1	n.s.
Tester	1	88.24	< 1	n.s.
R x S	1	286.41	3.02	< .10
R x T	1	3.67	< 1	n.s.
S x T	1	24.25	< 1	n.s.
R x S x T	1	145.84	1.54	n.s.
Error	128	94.90	....	....

TABLE 25

ANALYSIS OF VARIANCE OF ENGLISH COMPOSITION GRADES

Source	df	Mean Square	F	p
Race	1	2.53	4.66	< .05
SES	1	.72	1.32	n.s.
Tester	1	.01	< 1	n.s.
R x S	1	1.51	2.78	n.s.
R x T	1	.00	< 1	n.s.
S x T	1	1.38	2.53	n.s.
R x S x T	1	.07	< 1	n.s.
Error	70	.54	....	....

TABLE 26

ANALYSIS OF VARIANCE OF EDUCATIONAL ASPIRATION SCORES

Source	df	Mean Square	F	p
Race	1	1.84	1.23	n.s.
SES	1	1.03	1.51	n.s.
Tester	1	1.32	1.93	n.s.
R x S	1	.93	1.35	n.s.
R x T	1	.37	< 1	n.s.
S x T	1	.84	1.24	n.s.
R x S x T	1	.67	< 1	n.s.
Error	136	.68	....	....

TABLE 27

ANALYSIS OF VARIANCE OF OCCUPATIONAL ASPIRATION SCORES

Source	df	Mean Square	F	p
Race	1	94.04	< 1	n.s.
SES	1	153.35	< 1	n.s.
Tester	1	1.08	< 1	n.s.
R x S	1	32.40	< 1	n.s.
R x T	1	.59	< 1	n.s.
S x T	1	109.56	< 1	n.s.
R x S x T	1	779.71	3.36	< .10
Error	105	231.86	....	....

TABLE 28

ANALYSIS OF VARIANCE OF SOCIAL SCIENCE INTEREST SCORES

Source	df	Mean Square	F	p
Race	1	.21	< 1	n.s.
SES	1	11.31	1.82	n.s.
Tester	1	1.73	< 1	n.s.
R x S	1	.13	< 1	n.s.
R x T	1	.03	< 1	n.s.
S x T	1	6.11	< 1	n.s.
R x S x T	1	.55	< 1	n.s.
Error	128	6.21	....	....

TABLE 29

ANALYSIS OF VARIANCE OF SCHOOL AMBITION SCORES

Source	df	Mean Square	F	p
Race	1	3.00	< 1	n.s.
SES	1	2.36	< 1	n.s.
Tester	1	17.52	5.70	< .05
R x S	1	1.19	< 1	n.s.
R x T	1	.50	< 1	n.s.
S x T	1	15.73	5.12	< .05
R x S x T	1	.58	< 1	n.s.
Error	128	3.07	....	....

TABLE 30

ANALYSIS OF VARIANCE OF SCHOOL INTEREST-TOTAL SCORES

Source	df	Mean Square	F	p
Race	1	28.90	1.75	n.s.
SES	1	.99	< 1	n.s.
Tester	1	71.76	4.48	< .05
R x S	1	7.10	< 1	n.s.
R x T	1	6.71	< 1	n.s.
S x T	1	17.10	1.07	n.s.
R x S x T	1	4.76	< 1	n.s.
Error	128	16.00	....	....

TABLE 31

ANALYSIS OF VARIANCE OF ACT ENGLISH SCORES

Source	df	Mean Square	F	p
Race	1	530.74	27.28	< .001
SES	1	2.41	< 1	n.s.
Tester	1	11.41	< 1	n.s.
R x S	1	.64	< 1	n.s.
R x T	1	53.52	2.75	n.s.
S x T	1	26.26	1.35	n.s.
R x S x T	1	22.46	1.15	n.s.
Error	128	19.45	.....	....

TABLE 32

ANALYSIS OF VARIANCE OF ACT MATHEMATICS SCORES

Source	df	Mean Square	F	p
Race	1	577.05	20.65	< .001
SES	1	49.30	1.76	n.s.
Tester	1	5.97	< 1	n.s.
R x S	1	7.89	< 1	n.s.
R x T	1	52.58	1.88	n.s.
S x T	1	5.63	< 1	n.s.
R x S x T	1	28.70	1.03	n.s.
Error	128	27.95	.....	....

TABLE 33

ANALYSIS OF VARIANCE OF ACT SOCIAL STUDIES SCORES

Source	df	Mean Square	F	p
Race	1	890.15	24.07	<.001
SES	1	13.27	< 1	n.s.
Tester	1	1.56	< 1	n.s.
R x S	1	39.72	1.07	n.s.
R x T	1	67.54	1.83	n.s.
S x T	1	24.49	< 1	n.s.
R x S x T	1	3.03	< 1	n.s.
Error	128	36.98	.....	....

TABLE 34

ANALYSIS OF VARIANCE OF ACT NATURAL SCIENCE SCORES

Source	df	Mean Square	F	p
Race	1	533.80	19.36	<.001
SES	1	1.12	< 1	n.s.
Tester	1	.67	< 1	n.s.
R x S	1	24.69	< 1	n.s.
R x T	1	3.78	< 1	n.s.
S x T	1	1.25	< 1	n.s.
R x S x T	1	1.48	< 1	n.s.
Error	128	27.58	.....	....

TABLE 35

ANALYSIS OF VARIANCE OF SELF-CONCEPT OF ABILITY SCORES

Source	df	Mean Square	F	p
Race	1	4.05	< 1	n.s.
SES	1	4.19	< 1	n.s.
Tester	1	26.74	2.07	n.s.
R x S	1	7.08	< 1	n.s.
R x T	1	.01	< 1	n.s.
S x T	1	.61	< 1	n.s.
R x S x T	1	61.81	4.78	< .05
Error	133	12.94	....	....

TABLE 36

ANALYSIS OF VARIANCE OF TEST ANXIETY SCORES

Source	df	Mean Square	F	p
Race	1	55.45	1.99	n.s.
SES	1	.83	< 1	n.s.
Tester	1	72.62	2.60	n.s.
R x S	1	80.34	2.88	< .10
R x T	1	25.97	< 1	n.s.
S x T	1	29.65	1.06	n.s.
R x S x T	1	14.83	< 1	n.s.
Error	125	27.93	....	....

TABLE 37

ANALYSIS OF VARIANCE OF I-E SCORES

Source	df	Mean Square	F	p
Race	1	19.38	< 1	n.s.
SES	1	4.65	< 1	n.s.
Tester	1	24.62	1.84	n.s.
R x S	1	1.17	< 1	n.s.
R x T	1	78.26	5.84	< .05
S x T	1	38.84	2.90	< .10
R x S x T	1	7.93	< 1	n.s.
Error	135	13.41	....	....

TABLE 38

ANALYSIS OF VARIANCE OF CONTROL IDEOLOGY SCORES

Source	df	Mean Square	F	p
Race	1	.11	< 1	n.s.
SES	1	.20	< 1	n.s.
Tester	1	3.09	< 1	n.s.
R x S	1	.45	< 1	n.s.
R x T	1	14.97	4.67	< .05
S x T	1	8.26	2.58	n.s.
R x S x T	1	1.37	< 1	n.s.
Error	135	3.21	....	n.s.

TABLE 39

ANALYSIS OF VARIANCE OF PERSONAL CONTROL SCORES

Source	df	Mean Square	F	p
Race	1	1.89	< 1	n.s.
SES	1	.21	< 1	n.s.
Tester	1	1.89	1.49	n.s.
R x S	1	.41	< 1	n.s.
R x T	1	.00	< 1	n.s.
S x T	1	.01	< 1	n.s.
R x S x T	1	8.65	6.80	< .05
Error	135	1.27	....	....

TABLE 40

ANALYSIS OF VARIANCE OF NEED FOR ACHIEVEMENT SCORES

Source	df	Mean Square	F	p
Race	1	.70	< 1	n.s.
SES	1	.00	< 1	n.s.
Tester	1	.51	< 1	n.s.
R x S	1	17.07	1.23	n.s.
R x T	1	6.92	< 1	n.s.
S x T	1	6.17	< 1	n.s.
R x S x T	1	18.59	1.34	n.s.
Error	120	13.84	....	....

TABLE 41

ANALYSIS OF VARIANCE OF SOCIAL DESIRABILITY SCORES

Source	df	Mean Square	F	p
Race	1	7.82	2.25	n.s.
SES	1	.58	< 1	n.s.
Tester	1	1.96	< 1	n.s.
R x S	1	1.35	< 1	n.s.
R x T	1	.05	< 1	n.s.
S x T	1	.09	< 1	n.s.
R x S x T	1	3.13	< 1	n.s.
Error	132	3.47	....	....

APPENDIX E

INTERCORRELATIONS OF MAJOR VARIABLES

TABLE 42

INTERCORRELATIONS OF MAJOR VARIABLES--NEGROES[a]

	1.	2.	3.	4.	5.	6.
1. Educational Aspiration	.....	.06	.35	.59**	.26	.45*
2. Social Science Interest	.26	.....	-.08	.47*	.37	-.08
3. School Interest-Total	.36*	.36*	.....	.61**	.31	.37
4. School Ambition	.13	.44**	.76**	.....	.55*	.37
5. N ach	.28	.17	.28	.24	.....	.35
6. Self-Concept of Ability	.41*	.18	.41*	.26	.27	.....
7. Test Anxiety	-.19	-.12	-.17	.00	.11	-.56**
8. Personal Control	.07	.11	.20	.20	-.08	.34*
9. I-E	.27	-.01	.28	.26	.03	.41*
10. ACT-Total	.24	.00	.00	-.08	-.29	.57**
11. Social Science Grade--T-Score	.29	.57**	.29	.16	.15	.42*
Variance	.89	6.9	13.4	4.0	14.0	15.3

Notes:

[a]Correlations for lower-class Ss are below and to the left of the diagonal; N's ranged from 25 to 36. Correlations for middle-class Ss are above and to the right; N's ranged from 19 to 25.

*$p < .05$ (two-tailed test).

**$p < .01$ (two-tailed test).

7.	8.	9.	10.	11.	Variance
.06	.14	.10	.44	.70**	.38
.06	.00	.02	-.05	.15	7.8
.21	.14	.04	.08	.12	11.4
.04	.22	.13	.37	.49*	1.6
-.04	.20	-.04	.53	.42	14.7
-.06	-.06	-.20	.56*	.32	11.2
.....	-.34	-.22	-.44	.17	19.3
-.17	.....	.70**	.05	.00	1.1
-.31	.70**	.....	.30	.14	9.2
-.45*	.19	.35	.....	.62**	292.8
-.39*	-.14	.01	.57**	.....	110.1
25.9	1.4	15.8	286.6	65.1	.....

TABLE 43

INTERCORRELATIONS FOR MAJOR VARIABLES--WHITES[a]

	1.	2.	3.	4.	5.	6.
1. Educational Aspiration	.....	.13	.26	.49**	.03	.54**
2. Social Science Interest	.29	.....	.33*	.35*	.05	.13
3. School Interest-Total	.31*	.34*	.....	.77**	.22	.47**
4. School Ambition	.34*	.35*	.78**	.....	.11	.50**
5. N ach	.18	.10	.37*	.14	.....	.19
6. Self-Concept of Ability	.44**	.25	.20	.20	-.05	.....
7. Test Anxiety	.02	.17	-.03	.01	.14	-.32
8. Personal Control	.05	.08	.14	.08	.11	.34*
9. I-E	-.21	-.02	.19	.10	.05	-.01
10. ACT-Total	-.20	-.02	-.05	.00	.03	.42**
11. Social Science Grade--T-Score	.02	.38*	.19	.39**	-.02	.19
Variance	.76	6.9	20.5	3.8	13.7	10.0

Notes:

[a]Correlations for lower-class Ss are below and to the left of the diagonal; N's ranged from 41 to 48. Correlations for middle-class Ss are above and to the right; N's ranged from 33 to 42.

*$p < .05$ (two-tailed test).

**$p < .01$ (two-tailed test).

7.	8.	9.	10.	11.	Variance
-.27	.12	.15	.10	.20	.53
-.07	.10	.31	.12	.10	3.1
-.20	.12	.12	.08	.03	18.2
-.24	.07	.10	.00	.10	2.6
-.13	.03	.24	-.34	.16	11.4
-.52**	.24	.23	.24	.32*	19.1
.....	-.20	-.10	-.36	-.55**	27.1
-.34*	.....	.69**	-.24	.11	1.3
-.30*	.62**	.....	-.31	.18	17.3
-.31	.43**	.26	.....	.22	157.0
-.20	.23	.19	.37*	.....	81.8
33.4	1.4	13.8	348.7	119.9	.....

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